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CONTENTS

On Meeting the Atomic Challenge

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ALMOST FOUR YEARS have passed since the awful realization of atomic power exploded upon an unsuspecting world. Hand in hand with its fearful destructive implications, the fact of atomic energy presented a great opportunity — perhaps our *last* great opportunity — for human organization. A world of possibilities was opened up to us by our scientists, possibilities for limitless good, and possibilities for indescribable evil. We were so to speak, poised in the no-man's land between slow, arduous, but rewarding *con*struction and quick, easy but irrevocable *de*struction. The decisions facing us then were to determine the direction of our course. These decisions were political, economic, sociological, and scientific. No field of human endeavor was absolved from responsibility for these decisions or will be left untouched by their effects.

Atomic science, in smashing the distinction between matter and energy, opened new vistas of power and material progress for mankind. The power contained in ordinary objects, if it could be fully used, is truly immeasurable, and indeed almost beyond imagination.

The first clues had been found in the phenomena of radioactivity. The next pure logic of scientific advance was contained in Einstein's reasoning that, "if energy can turn into mass by speeding up a moving body, then mass can probably turn into energy." And so evolved the famous equation: $E = mc^2$, which means that the amount of energy, E, is equivalent to a mass, m, multiplied by the square of the velocity of light, c, which can hardly be considered a small magnitude.

In military language, this would mean that every pound of any kind of matter contains as much energy as is given off by the explosion of fourteen million tons of TNT. Or we might say that a lump of coal the size of an egg could serve as sufficient fuel for a transatlantic voyage.

We have at the present time only three nuclear fuels which will produce energy at a controlled rate in a primary reactor, or which may produce a runaway explosion as in the bomb. These fuels are Uranium-235, Plutonium-239, and Uranium-233, all derived from the raw materials and compounds of uranium and thorium. An estimate of the extent of these fuels as natural resources can hardly be made with any degree of accuracy. From the Lilienthal Report we know that there are "no significant limitations, either in the availability or in the cost of the fundamental active materials."

Perhaps even more revolutionary changes are in the offing. The Soviet Academy of Sciences announced last year the beginning of an altogether new chapter in the physics of the atomic nucleus. Their experiments were said to have demonstrated that components of cosmic rays actually disrupt carbon, nitrogen, and oxygen atoms into their components. As part of their light elements research, the Russians are said

to be working on the fusion or meson energy principle, which may well be a thousand times more powerful than the fission principle used by United States scientists. Up to the present, the fission process has been applied to only the heaviest of atoms. If it is now possible, by means of cosmic ray bombardment, to disintegrate even the lightest and most common atoms, a super-atomic age may be around the corner, with fantastic possibilities. In this connection, I am assured that the United States has undertaken parallel research and does not seem to be lagging behind.

The limitless possibilities of power and destruction thus opened up for us demanded a new kind of social vision, because it was clear that we no longer had time to muddle along with the same old gradual approach to human relations and organization. The one great fact we have tried to understand is that *the release of atomic energy has made war, as an instrument of national policy, obsolete!* From the purely selfish point of view of national interest, we have tried to comprehend that future recourse to war, whether with noble or evil motives, will lead to the destruction of civilization as we know it. Nor will any country on our globe be spared from unimaginable destruction, either by reason of its geographic location or through its possession of an efficient military force and a network of far-flung bases. There is no such thing as a 100 percent effective defense against *any* weapon, and a 1 percent failure against an *atomic* weapon may well mean a total failure. These facts have been indisputable since the first day of the Atomic Age but, in the past four years, have we met the challenge presented to us in the explosion over Hiroshima? Are we moving toward *con*struction, or is our drift in the direction of *de*struction?

Changing Concepts of Geography

Of the many elements of learning which make up our modern society, no subject has been more thoroughly neglected than geography. Even as recently as twenty years ago, the teaching of geography in the United States was considered nothing more than a grammar school routine.

As a consequence of this neglect, our views of geography have remained static, at least until the beginning of the Second World War. Most of us have grown up firmly indoctrinated with the static concept of a world neatly and permanently divided into continents and national states, all squarely projected on a Mercator map. The tragedy of this lack of geographic insight is that it takes such a long time to remedy. For a geographical perspective is not something to be acquired overnight.

The reasons for our disinterest are rather obvious. We were brought up to think of ourselves as a continental civilization, with an expanding frontier and with no particularly urgent population pressures to cause us to scrutinize geography from a political angle. The tradition of the Monroe Doctrine, added to the favorable character of our natural borders, confirmed us in the belief that our fortress was impregnable. It is not surprising, therefore, that to most of us, geography did not

have the compelling attraction that it has so long held for Europe.

With the development of air power, with the ever-increasing frictions of the interwar period and, finally, with the emergence of the global challenge of fascism, Americans suddenly awakened to the realization that that comfortable feeling of being snugly isolated was a disastrous illusion. This sudden revelation quite naturally brought with it an immediate re-examination of our geographic knowledge; needless to say, it was found wanting. In casting about for new geographic techniques and ideas when the war compelled us to reorient ourselves, we hit upon the mysterious new science of "geopolitics," which, as Hitler's secret weapon, quickly captured the public imagination. With all the evil effects, muddled thinking, and purposeful confusion brought on by our sudden glorification of Haushoferism, this pseudo-science has at least one achievement to its credit: It has helped to awaken America's geographic sensibility.

Surely the role of geography must be greater than this, and I want to emphasize this point. Geography must transcend its physical, political, and economic limits and become a truly human geography; it must set out to develop a sense of the global unity of our age, the essential interdependence of the land masses of Eurasia and America, and a consciousness of the intimate relation of geographic and human factors. In short, it must concern itself with the great challenge of modern times: To translate the term "One World" into a meaningful concept — meaningful, that is, within the framework of human experience.

In the 18th century human geography received a vigorous shot in the arm through the writings of Montesquieu. In his famous *Spirit of the Laws* (L'Esprit des Lois) he broke decisively with the descriptive geographers and stressed the natural factors which affect the destiny of states. He believed especially that states should not expand beyond the natural limits set for them by the physical characteristics of their location. Thus in Asia the existence of vast plains and steppes, divided into large partitions by effective natural barriers such as mountain ranges and oceans, favored the development of large states, whereas Europe's topography inevitably produced small state systems.

This kind of speculation about the origin and development of man and the state seemed to be particularly well adapted to the German character. We can understand much of the history of German geopolitics in terms of Germany's national awakening, its need for a dynamic philosophy to satisfy its romantic *Weltanschauung*.

The greatest of the trail blazers of political geography was, unquestionably, Friedrich Ratzel, whose brilliant mind combined a sound knowledge of the natural sciences with a first-hand view of the world gleaned through his extensive travels. The main characteristic of his teaching was that it subordinated the development of the state to biological laws. Typical of the nature of his work is the title of one of his essays "About the Laws of the Spatial Growth of the States." His was merely

an attempt to place geography on a securer scientific basis, but its effect on history was disastrous; Ratzel's ideas, combined with those of List, became the pattern for Kjellen's and Haushofer's geopolitical determinism. The whole effect of this school was to promote the idea that the political actions of a state are predetermined by geographic factors; the destiny of mankind, we are told, is governed by the laws of geography. These laws are as inescapable as the biological laws of growth. A state, like a plant, must grow, and geography shows the direction of its growth.

Rudolf Kjellen, the Swedish disciple of Ratzel, carried this concept into the field of demography: A state should expand into those areas whose people are culturally favorable to it and who can be readily absorbed into it. Here, too, is contained the idea of *Lebensraum:* Space is the element in which the organism of the state lives and grows; without it the state is choked off. Thus we have the powerful, half-mystical political argument for living-space, which has been such a potent slogan of German National Socialism.

This whole development was really an attempt to introduce Darwin's laws of biology into the sphere of social organization. The trouble with this is that it ignores all concepts of human morality, or even the ability of men to determine their own destinies. By translating Darwinism into the language of geography, the biogeographers succeeded only in dragging men down to the level of the lower animals.

At this point let us, for a moment, abandon this ignominious heritage and turn our attention to a brighter — perhaps the only bright — chapter in the book of geopolitics. It is the chapter written by Sir Halford J. Mackinder, the distinguished British scholar who was mercifully spared the distorting influence of the biogeographers.

Mackinder was fascinated by the Asiatic continent. He explained the whole of history in terms of the Asiatic pressure upon Europe and the Western Civilization. Because of the peculiar geographic character of Asia, he visualized a gigantic struggle between the core of the Asiatic continent and the smaller regions outside the core. These smaller regions, like Europe, are thickly populated and accessible to the sea, while the core, or "Heartland," is sparsely populated, but constitutes a formidable, continuous land mass. In this gigantic struggle Western seapower was supreme over Asiatic landpower until 1900. But the development of modern transportation and mobility of power has reversed this predominance, and Western *seapower* is now challenged by the *landpower* of the Heartland. The new Russia, covered by railroads, has become "the pivot of history." The balance of power in the world is now extremely delicate and if it were upset in favor of the pivot state, the hour of destiny would arrive; an Asia-dominated empire of the world would then result. Mackinder believed that this might happen if Germany were to ally herself with Russia.

As a serious analysis in political geography, Mackinder's works are extremely valuable. Until 1944, shortly before his death, Mackinder also defended his Heartland concept, insisting

that it had more validity than ever before. What he would say today, in the face of our harnessing of atomic power, no one knows. Certainly all our concepts of national or regional power balances need thorough revision.

Let us continue, however, with the flourishing school of geopolitics, which reached its zenith with General-Professor Karl Haushofer. Haushofer's original contribution to geopolitics has been considerably overrated. He merely combined the teachings of Ratzel with the Heartland concept of Mackinder and skillfully turned the whole science into a justification of German expansion. He utilized all the psychologically effective slogans handed down by his geopolitical predecessors and presented them in an emotional form most acceptable to the Nazis. His influence on Nazi strategy also has been exaggerated. Unquestionably Haushofer's school became a symbol and a driving force that coordinated and rationalized the whole field of geography for the use of the Führer; but in this Hitler utilized him when it suited *his* intuition. Haushofer was the anvil, not the hammer. If he had really been able to make his influence felt, he would certainly have dissuaded Hitler from his attack on Russia. For Haushofer had learned his Heartland lesson well from Mackinder and had always extolled the virtues of a Russo-German coalition. The attack against Russia must have been a terrible blow to him. As a matter of fact, his only Nazi disciple was Hess, who did try to convert Hitler; but when Hess flew the coop, Hitler returned to his own bible and the crusade against Bolshevism.

Haushofer's service to geographers consists in having made the world conscious of the possibilities inherent in geography as a legitimate tool of political analysis. His great disservice to geography and to humanity consisted in having abused this tool by releasing it from all moral restraints and perverting it to serve the unscrupulous ambitions of a dictator.

German geopolitics died a natural death with the defeat of the Nazis. But the principles upon which geopolitical ideas were based did not become invalidated until exactly fifteen minutes past eight on the morning of August 6, 1945, Japanese time, when the atomic bomb flashed above Hiroshima.

It is a terrible pity that the practical reality of atomic power had to be first presented to the people of the world in the form of a destructive weapon, and an outmoded one at that. For, in spite of the hysteria exhibited by the press, the world has simply not been able to grasp the prodigious implications of the fact that this was not merely a more potent weapon of destruction, but the first successful harnessing of the original energy of nature which, for all practical purposes, is unlimited.

Already radio and air transportation have so telescoped distances that the forces and influences of any area can be brought almost immediately to bear on any other. New York is only twelve hours from Western Europe. The heart of Asia is roughly the same distance from Paris. Chicago is less than half again as far from the northernmost reaches of Siberia.

With atomic power, the airships of the future will not have to refuel to

travel around the earth. The utilization of this inexhaustible form of energy will make possible space platforms from which all the earth is accessible. Neither the industrial centers of America nor the hidden industries of the Russian Urals can be protected against atomic technology that is already understood and will eventually be made practical.

As a result of the geography-defying character of atomic weapons, Mackinder's faith in the Heartland as "the greatest natural fortress on earth" is virtually an illusion. Ideas of land-power and natural ground obstacles, however awe-inspiring, no longer enter into the strategic calculations of today's general staffs. The strategic security of nations in our present world is measured primarily by three factors: First, by the strength of their *political defenses;* second, by their *industrial capacity;* and only in the third place by a geo-economic factor, namely, the *location of raw materials for the manufacture of atomic energy* — uranium and thorium ores. It should be obvious to the realists among us that the Heartland has suffered a kind of "enlargement of the heart," to include those scattered areas where uranium and thorium can be mined in any quantity. As most of us know, uranium is found in the form of uraninite or pitchblende in the United States, Canada, the Belgian Congo, and Czechoslovakia; and thorium is found in the monazite sands of India, Brazil, the Dutch East Indies, and Australia. A poorly founded rumor has it that extensive ores may be located in the Antarctic, where the British were leading the latest "gold-rush," with the United States not far behind. Resources everywhere are being developed and exploited, but the expanding structure of power is not confined to the areas where they are found.

But if the principles of geopolitics are invalidated by the atom, the idea of national power as an end in itself has also become an illusion. No nation is today assured of survival, merely through the possession of a preponderance of power; but every nation is today threatened with destruction through the reckless use of such power.

It is in this setting that geography must perform its greatest service to mankind. Not as a national political tool to devise a strategy of conquest, but as the natural science of global unity, devoted to the social science of translating the objective reality of "One World" into the language of subjective simplicity, the language of the layman who is still chained to a geography of hemispheres and Mercator maps.

New Economic Problems

No matter how hard he might have tried, man could not have escaped from the limitations imposed upon him by his primitive productive system, based upon handicrafts, based upon tools moved by muscle power, and machines moved by the indirect power of coal and oil. Such a system was shackled to a restricted level of production, to scarcity and distress. It was a system in which the prophecies of Malthus, that populations would inevitably increase more rapidly than our ability to feed them, hung over us like a black cloud without a silver lining. Such was man's bondage; now with the help of the atom that age lies in the past.

Of the many industrial uses to which nuclear processes may soon be applied economically, the production of electric power is within our most immediate practical reach. This would probably be combined with the utilization of some of the resulting heat for heating densely populated towns and cities.

The economic cost of such a project has been studied by the Monsanto Chemical Company, which operates the Oak Ridge, Tennessee, laboratory. The study, termed the Thomas Report, was based upon information available in 1947 and considered a complete nuclear power plant of the primary reactor type, in which the operating temperature would be high enough to supply power, and in which all the plutonium formed would be recovered for later use in the pile. On the basis of 1947 prices, such a complete thermal power plant, producing approximately 75,000 kilowatts, would cost about $25 million, compared with a coal power plant of similar capacity costing only $10 million. However, in the case of the nuclear power plant, the cost of the fuel would be very low, since the fuel is, in the economic sense, self-replenishing through the formation of plutonium, which can be recovered for further fission use. Thus, if we assume an interest charge of 3 percent on the original total investment of $25 million, the cost of the power would amount to 8 cents per kilowatt hour. A coal power plant, of the same capacity and using coal at the price of $7.00 per ton, could produce power at a slightly lower cost of 6½ cents per kilowatt hour. The comparative costs, therefore, are not so far apart even now, and it was assumed that coal prices will rise, whereas the cost of nuclear technology will undoubtedly fall.

In addition to the Thomas Report, we have a late report of the California Scientists which is even more revealing. It investigates the comparative generating costs of atomic power plants and conventional power plants. Walter Isard, of the Massachusetts Institute of Technology, in his excellent study on "Some Economic Implications of Atomic Energy" (published in the *Quarterly Journal of Economics,* February, 1948, Vol. VII, No. 2), concludes from the data of the California report that, "if reasonable construction costs are assumed, it appears likely that plutonium reactors may produce power for 5 to 15 percent less than can be done in competitive coal fuel plants." For comparative purposes, certain estimates of the Cowles Commission of the University of Chicago as to generating costs of electricity for several regions of the world have been used as a basis for this report of the California scientists.

What does all this mean in terms of immediate effects? If the costs are so nearly equal, what is all this fuss about the importance of peaceful uses of atomic energy? The most important consideration we must keep in mind is that a nuclear power plant is not dependent for economical operation upon its proximity to the source of fuels. In a coal power plant, since at least half of the cost of the fuel is in the form of transportation costs, nearness to the source of fuel is of primary importance; in the case of a hydro-electric power plant, its operation is, of course, completely dependent upon the availability

of water power. The nuclear power plant, however, because of the trivial amount of fuel required, can afford to ignore completely the source of fuel. This has tremendous implications: The industrial development of isolated parts of the world, where the cost of oil, gas, or coal is prohibitive, and where no water power is available, has now become economically feasible.

Atomic fuel, which involves practically no freight cost, can now combine with high-grade but not readily accessible resources to supply long-unsatisfied demands and to awaken entirely new ones. Great industrial plants can now be erected at the source of raw materials without concern for the availability of fuel for their power. This will certainly promote decentralization of industry. At the same time, the development of nuclear power will not suddenly displace coal or other types of power-producing plants, but it opens up huge additional fields of production heretofore considered uneconomical. On general historical grounds, some of our American economists — Walter Isard among them — believe that the Soviet Union, despite an initial handicap in scientific and engineering knowledge, may be foremost in application of atomic energy. At the present time, Britain, Canada, the United States, and some Western European powers are pushing most vigorously the possible practical industrial uses of atomic energy.

Perhaps even more far-reaching in their effect than cheap power are the radioactive isotopes which are formed as by-products of the fission process. Their use as research tools and tracer elements in analytical work and medical treatment may have quite unexpected consequences. Major results are much more likely to be achieved in the field of fundamental work in biochemistry than in the direct therapeutic application of the isotopes. Through the use of tracer elements, atomic energy provides a possibility of much new knowledge of the fundamental chemical processes of the body.

This is, very briefly, the extent to which we can speak of the immediate, practical, measurable significance of the atomic discovery to the economic field. Additional information will soon become available from the various research projects now under way, such as the General Electric's Nucleonics Project in Schenectady, providing for a model plant. Further, under the leadership of the Atomic Energy Commission, many laboratories of universities and private organizations are excelling in studies to further the constructive application of atomic energy.

But, in the longer view, the atomic development holds much more radical possibilities in store for us. It has, indeed, opened up an age of chemistry and alchemy, an age of limitless productivity, an age which must and can come to grips with even such fundamental problems as the specter of overpopulation. In the vast pre-industrial regions of the world such as China and India, modern science and sanitation have reduced the death rate, thus increasing the total population, without at the same time increasing the area's ability to support its inhabitants. The results are staggering. The population of India is now increasing at the rate

of five million a year. In 57 years its population of 400 million will be doubled to 800 million, yet India cannot even support a fraction of its present population at a respectable living standard.

History has shown that, in the process of industrialization, the birth rate of a country shows a sharp rise, which, in the case of these areas, would aggravate the situation. Only in a mature, urbanized industrial society does the birth rate decline, and the Asiatic regions are, indeed, far from that stage of development. True, industrialization must come to Asia, but it must be accompanied by an unprecedented increase in agricultural productivity and a vast flow of food products from the export-surplus countries. Such a sharp increase in soil productivity presents a challenge to our scientists. The application of biological inventions and nuclear energy to undeveloped and unproductive regions can make them fit for useful human habitation. Chemurgy, the combination of science, agriculture, and industry, with the help of the atom, may well transform deserts into oases and change the frozen tundra regions of the Arctic Circle into fertile expanses of black earth.

Two epochal new inventions have just been announced. What Stewart Alsop calls the "photosynthetic Shmoo" is expected to become a new method of "farming the sea." Two California scientists, Dr. Melvin Calvin and Dr. Andrew A. Benson, working for the Atomic Energy Commission, have used a radioactive by-product of atomic energy, carbon 14, in laboratory experimentation. By forcing seaweed and algae to produce great quantities of fat or protein or carbohydrates, they hope to be ready to produce enormous quantities of food in the near future. In four years they hope to be ready for industrial mass production of foodstuffs so vital for feeding the hungry Asiatics and other peoples. Alsop believes that this plan might radically change the world population problem and completely alter the face of the earth and the seas.

The other invention, a remedy against malaria and the sleeping sickness, wiping out the Tse-Tse fly of Africa, is termed "Anthrycide." It is being produced in Britain and is designed to help in making the still Dark Continent the largest grazing ground for cattle in the world, larger than Argentina or Texas. In this age of chemistry and alchemy, in which it is rapidly becoming possible to make anything out of anything, the Malthusian specter of mass hunger and poverty need no longer haunt the world.

The fantastic technological consequences that flow from the age of transmutation of matter can barely be imagined. The process of production may at last become an unlimited, inexhaustible flow of materials and energy with little expenditure of time and labor. The age-old dream of abundance and leisure has been made physically possible of fulfillment. Entirely new and heretofore unthought-of combinations of natural and human energies may basically alter our present habits of life. Concepts of debt and interest may change rapidly in such an age of cornucopia. Property ownership may well lose its vital place in the

social organization, and the trend toward collective planning and collective consumption will move irresistibly towards its predestined goal of dynamic social productivity.

The industrialization of backward areas may give us the kind of economy of plenty which will enable us, at last, to discard our defective systems of distribution, and realize, on a world-wide scale, the Biblical allegory of preparing in the fat years for the distress of the lean years, or, in twentieth century language, smoothing out the business cycle.

All these goals, which represent the hopes and utopias of human beings through the ages, all these are now in the category of the physically possible. There are no significant technical obstacles in the way of this ideal fulfillment. The real obstacles lie in the field of social planning, of human organization, and of political wisdom; these obstacles are really staggering, if not totally insurmountable. Let us, then, return to this imperfect world of present reality and meet some of its more immediate, seemingly insurmountable obstacles. If we should find that our problems in this field are capable of solution, we may hope that the utopias of yesterday may become the realities of tomorrow.

Foreign Policy and the Atom

We are living in an age of strange contradictions. On the one hand, we can observe with satisfaction that never has the desire for peace been stronger on this earth; on the other hand, we must admit that never have the obstacles to peace been more numerous and the instruments of war more overwhelming. On the one hand, again, never before has the human urge to freedom reached the proportions of the present day; on the other hand, never have the foes of freedom in our time been more potent. Among these major foes we see intolerance, unemployment, and the greatest of all, war. In speaking about atomic energy, the problem of war must have first priority, simply because it is today the problem of human survival.

The past weakness of American foreign policy rested on the magnificent illusion of isolation. On the basis of the Monroe Doctrine which, because of our geographic position and our military strength, was never successfully challenged, generations of Americans were convinced that our position was unassailable. At the same time we acquired a number of far-flung foreign commitments in the Atlantic and Pacific without any appreciation of the need for power to support these commitments, power in the form of armaments, strategic positions, and alliances. Nothing happened to disturb this blissful state of affairs until World War I. Theodore Roosevelt had been the only president who had considered military power relationships in his foreign policy, and he had taken great pleasure in playing power politics as a game. But when, in World War I, Americans discovered that this could be a very deadly game, their resentment turned not against our lack of understanding of the game, but against the game itself.

The resentment against power politics as such crystallized about the figure of Woodrow Wilson. The Covenant of

the League of Nations, embodied in the Versailles Treaty, was rejected by the Senate, because it was couched in high moral and idealistic words, which emphasized our obligations to enforce the peace of Europe, but failed to show their meaning in terms of advantage to vital American interests, or even the need to protect these interests. War weariness, irritation at delays in peacemaking, suspicion of former allies, and growing distrust of the slogans of the war all took their toll and affixed the stamp of approval to Harding's return to normalcy and isolation.

During the twenty years that followed our rejection of the League, our foreign relations were conducted virtually without any conscious foreign policy. Our commitments became ever larger, and our desire or ability to defend them ever smaller. Our policies toward our potential enemies became ever bolder and our position as an objective of enemy attack ever more attractive. Our attitude towards our potential allies became ever less friendly and our military weakness ever more apparent. This was a perfect example of irresponsible statesmanship, in a world whose power relationships were so delicately balanced.

This incongruous situation became apparent to President Franklin D. Roosevelt in 1937, but it was not until 1940 that the people began to realize the issues and the furious controversy raged between isolationists and interventionists. World War II came to settle the controversy once and for all and to drive home to us the meaning of power in foreign policy and its proper use in the pre-atomic age.

However much we may dislike the concept of "power politics," we must acknowledge that power not only exists but that it is a necessary ingredient of every political order. The technique of politics in the international field is very much the same as in national affairs, but instead of pressure groups that exert their power upon a legislative body, we have nation-states that exert their power through international diplomacy. The chief difference is that in national politics conflicts of interest are usually reconciled by peaceful means, whereas in international politics, if conflicts become irreconcilable by agreement, nations may resort to the ultimate use of power, namely, war. In a world of sovereign states, the only restraint upon the ultimate use of power is self-imposed, depending upon the nation's sense of justice and fear of retaliation.

Our Good Neighbor policy in South America is not an example of a policy devoid of "power," but rather of an attempt to make our superior power position acceptable to our less powerful neighbors, through diplomatic restraint and tact. In our revulsion against the irresponsible use of power, we have tended to attack all power as evil and have tried to build plans for world peace on assumptions that denied the existence of power.

Traditionally, the purpose of a foreign policy has been to determine the foreign commitments which are vitally necessary to a nation and to have the power to defend them by war if necessary. The chief object was to provide for security against defeat and to have sufficient power to win a war in defense of national commitments.

To what extent are these foreign policy objectives still valid?

In order to answer this question, we must first consider the effects of the atomic weapon on the character of war. Much has been said about the efficacy of the atomic bomb, and most of us are agreed that it is a weapon of incalculable horror. But this alone does not tell us anything about its strategic effect upon the formulation of policy. For, however much we may deplore its existence, it is here to stay and we must learn to live with it. On the basis of information released to date, the following facts seem fairly well established:

1. The power of the latest bomb is said to be such that a 70-group air force could wipe out all the cities of a great nation in a single day. This would mean the virtual elimination of its industrial potential, the complete disruption of transportation and communication, and probably the collapse of normal governmental machinery.

2. There is no adequate defense against the bomb, and no possibility of developing one. Even minimum protection of our vital physical plant by a program of industrial decentralization would involve unbelievable costs, estimated at $200 to $300 billion.

3. There is absolutely no defense against radioactive effects which are infinitely greater than the bomb's destructiveness. The victim of radioactive burns receives absolutely no sensory warning and may not know for days that he has been exposed.

4. The atomic bomb has made distance an insignificant factor. Since it may readily be carried long distances, even advanced bases are not essential to effective use of the bomb. The recent flights by experimental Air Force bombers have adequately demonstrated this fact.

5. A superior number of bombs does not mean strategic superiority, because beyond a certain minimum differences in numbers of bombs held by each side will be meaningless.

6. Raw materials for the manufacture of bombs exist in adequate though not plentiful amounts. Presently known deposits of uranium are a great deal more than enough to blow up all the cities in the world.

7. All the basic scientific information necessary to the production of atomic energy is generally known, so that any nation with an advanced industrial technology may well produce fissionable materials in a few years at bearable cost.

8. Navies will play a secondary role in atomic war except as a powerful defense against overseas invasion. Ultimately, subjugation and control of any area will require ground forces.

9. It is difficult to conceive that atomic bombs will not be used in a future war. If an international control system has been established, such a system would certainly break down with the outbreak of war, and the race to produce the bomb would be on. The advantage to the first user would be so great that he would not be likely to hold back. A more hopeful possibility would be an international convention outlawing the use of the bomb, or fear of retaliation, when both sides have the bomb. Here again it is difficult to see why, if fear of retaliation were so

strong, the outbreak of war would not be prevented in the first place. It is frequently pointed out that poison gas was not resorted to in the last war. But we must remember that its use held little if any military advantage, and all powers were prepared to neutralize its effects. The prospect for a war in which atomic bombs are not used is not bright.

From all this we have drawn one significant conclusion: If war is ever again permitted to break out, it will no doubt be an atomic war, and in such a war there can be no victory in any sense of the word, and no useful survival for the mass of humanity. What does this mean in terms of an enlightened foreign policy in the Atomic Age?

Three great powers have emerged from the war, two of which, the United States and Great Britain, are strategically and ideologically so interdependent that it is permissible to speak of these Western powers as if they constituted a single power unit. The third superpower, the Soviet Union, has become the other pole about which Eastern nations have grouped themselves. With the development of this bipolarity, relations between the East and West obviously constitute the clue to future peace. A realistic appraisal of the relative strength of East and West must admit that the scales are weighted heavily on the Western side. The United States, still unique among the powers in possessing the atomic bomb, infinitely superior in the possession of a long-range air force, a powerful navy, and all conceivable prerequisites of attack, cannot today be challenged by any rival.

The Soviet Union, weakened by war, far behind in development of long-range air power, a mere infant among naval powers, is superior only in its possession of an overwhelmingly strong defensive land army. Its power is further limited by the exceedingly complex problems Russia must face at home. The pitiless devastation of Russia's border republics, the privations and planned sacrifices of collectivization and Five Year Plans which in spite of great successes have proceeded slowly, the difficulties of communication and transportation in the immense Asiatic continent, the chronic insufficiency of arable land which makes food supply a constant problem, the shortages of industrial manpower and trained technicians, the problems of regionalism and consumer goods shortages — all these combine to give Russian leaders a task of reconstruction and new construction which will require many years to complete, and which can succeed only in a world at peace.

Leaving aside the questions of friendship and brotherhood among men, from a purely objective analysis it would seem that the prospects for peace in the near future are not unfavorable. Our indisputable power superiority and Russia's need for peace do not point toward war.

However, in the more distant future, this situation may conceivably change. With the wide-spread possession of atomic weapons — or at least the ability to produce them in quantity — and with a continued paralysis of interna-

tional cooperation, through the irresponsible power ambitions of individuals or nations, war may again come to threaten us.

In the light of these developments, what are the major elements of a foreign policy in the Atomic Age? I should like to submit three basic objectives:

First Objective: The protection of national security through the organization of peace as a continuous enterprise, so as to develop the habit of negotiating agreements and arbitrating differences without resort to war. The only practical way to preserve peace in a world of sovereign nations is to carry on international relations in a permament, continuous organization whose long-range aim must be the development of a world community of interests.

Second Objective: The maintenance of military power of retaliation based upon modern weapons, which will act as a powerful deterrent to potential attackers. Only an overwhelmingly powerful weapon of retaliation so organized as to survive the first attack can remove the incentive to strike ahead of a potential enemy.

Third Objective: A conscientious and continuous effort to recognize and respect the legitimate interests of other powers.

This objective, obviously, is the most important; for, without it, peace will not be preserved. We are not justified in believing that the mere organization for peace and the fear of retaliation will be sufficient to prevent wars. If any great power, in pursuing its national interest, fails to temper its demands and actions with some understanding and respect for the problems of another power, peace cannot long endure. There must be a willingness to compromise, greater than ever before, and I believe that willingness is not entirely lacking today, because all of us know that the stakes are high. It is at this level that wars are caused or averted, and every effort must be directed at the successful balancing of interests.

In this interim period, while we are on the edge of the precipice, one of the most critical problems we face — and one whose solution will affect many others—is the control of atomic energy. The atomic energy control proposals of the United States as worked out in the original Acheson - Lilienthal Report were cautious and bold at the same time. Especially important was the proposal to turn over a substantial amount of the control over the development of atomic energy to the majority of an international commission, which was virtually another form of arms limitation. The report also proposed that the United States and Western advantages of possessing bombs and the means for their production (and the doubtful right to use them) be preserved over a certain period during which the system of inspection and control demonstrated its workability (as to new materials and processes). Knowing the background of the Russians' distrust, one can understand their suspicions and their slowness in finding certain parts of the United States proposals acceptable.

The question has been raised whether the Russians should not have accepted the plan in principle (as they left open

a participation in the Marshall Plan principle) and thereby gained a cooling-off period in which Congress and the American people might have compromised on some points which the Russians have said were unacceptable to them. It may also be mentioned that the United Nations and the United States may not have pursued negotiations with ultimate energy. Probably loss of hope that the Russians might still join the control commission, together with the continuation of atom bomb production, frustrated any further negotiation for a badly needed compromise solution after the evasive Soviet counter-proposals were considered unsatisfactory.

The immensity of the fact of atomic energy has not really penetrated into our conscious awareness, either in its positive or in its fatal implications. The initial revulsion and elation that characterized our first reaction to the impact of atomic power gave us, for a while, the strength and the will to face up to the new problems and tasks. But this momentum has not carried us far. Once we began to meet real obstacles and what seemed unreasonable opposition, our enthusiasm quickly waned and we began once again to sink back into our pre-atomic state of indifference, cynicism, and wishful thinking. What is worse, we have become all too willing to view friction and conflict as the forerunners of an inevitable (and possibly final) war, rather than to accept friction and conflict as the inevitable by-products of the never-ending struggle to *prevent* war. The desire for peace is almost universal among us, but the patience and understanding required to preserve it are rarely to be found.

One example of the lack of these qualities in our current thinking is contained in our reaction to the "veto power" of the Great Powers in the United Nations Security Council. Upon finding effective action in the United Nations blocked time and again by a Russian veto, we turn blindly against the veto power itself, as if it were the cause, rather than a symptom, of Great Power differences. The attack on the veto appears to proceed from a misapprehension of the nature of power in our society. Such an attack is based on the same fallacious assumption as the approach to immediate world government, namely, the failure to recognize that nationalism is still the strongest political force in the modern world.

The United Nations was established upon the basis of the existing power complex, in which the Great Powers had to bear the major burden of responsibility for the preservation of peace. In order to preserve unity among these big powers and to prevent ganging up against any one of them, it was agreed that no significant action would be taken by the Security Council without unanimous agreement of the great powers. This is correctly called by the Russians "the principle of great power unanimity" and has been incorrectly named the veto. Actually the veto as a positive instrument of cancellation does not exist. The principle is simply that a measure must be approved unanimously by the big powers, and a mere abstention, or failure to vote, constitutes in effect a veto.

The reason for this unanimity re-

quirement should be perfectly plain: It is an assurance to any of the big powers that it will not be compelled to take an action distinctly contrary to its own interests. The principle of majority rule can hardly be expected to apply in an organization in which a number of small powers could outvote one or more large powers. Thus the attack upon the veto fails to take a realistic view of the inequality of national power and, more important, the divergence of national interests. In part, the reason why Russia has resorted to the veto so frequently is that the nations representing Russia's interest are almost invariably outvoted by the nations representing the Western viewpoint. Although Russia's resort to the veto has sometimes been unjustifiable, this does not alter the fact that the way to reduce the use of the veto is to attempt to achieve agreement before an issue comes to a vote. The attempt to "abolish" the veto would obviously mean Russia's withdrawal and the effective torpedoing of the international organization as an effective instrument of conciliation.

Of course, achieving agreement, especially in the present tense situation, is not an easy task, and success is by no means assured. Success can come only through endless frustrating discussions and deliberations, leading finally and reluctantly to some measure of accord. Hope in the sphere of world peace is warranted only to the extent to which we are willing steadfastly to support this most difficult of all approaches to international concilation.

Determining Potential Demand For a New Product

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AFTER A NEW product has been tested and found good, the producer wants to know what the potential market for it is. Market researchers have devoted considerable attention to this problem and have developed three broad methods of securing information.

One method is to analyze the product and ascertain what it is, what it will do, and how much it costs, with a view of determining what groups of consumers, businesses, or farmers can be expected to buy it. The number of potential users and the quantities needed by them are calculated on the basis of such factors as population, number of families with various incomes, number of wired homes, number of farms of various sizes, number of tractors in use, horse power used in factories, number of machines in use, construction contracts, and the like. For example, the market for tractors can be computed from the number of farms large enough to use tractors profitably, taking into account the number of farms needing more than one tractor. The potential market for electric refrigerators may be calculated from the number of wired homes and the number of families with incomes high enough to afford this appliance. This method of computing market potentials is valuable, but it does not always give an accurate estimate of the quantity of a product that can be sold in the immediate future.

A second method is to explain or demonstrate the product to representatives of various classes of potential users and ask them whether they would buy the product if it were placed on the market. If the samples are well chosen and the interviewing well done, valuable results may be expected. The limitation on this method is that possible users cannot determine accurately what they will do in the future. There is also a tendency to say "yes" more often than "no" if uncertain. The product may be better or worse in actual operation than anticipated. A competing product of superior quality may appear. Or the prospective users may have more or less money than anticipated.

A third method is to select certain test areas in which the sale of the product is promoted aggressively. As some readers may be influenced by advertising but may not buy immediately, estimated sales for the immediate future may be too low.

An interesting application of this technique of aggressively promoting a product in selected test markets is now being used by the Consolidated Products Company of Danville, Illinois, in marketing its newest product, Kaff-A, a calf feed.

Background of Company Operations

This company makes stock feeds from buttermilk and whey, with small amounts of cereal, mineral, and vitamin

products added. It has 71 plants in 28 states and annually processes 2,000,000,000 pounds of milk products into 200,000,000 pounds of feed for hogs, chickens, calves, and turkeys. Sales for 1948 amounted to $20,000,000. The head of this Company is Dan Lewis, who was employed back in 1917 by the Sugar Creek Creamery, and placed in charge of by-products. Consolidated Products is largely the lengthened shadow of Lewis.

The history of this company offers many examples of success in developing and marketing new products. Some years ago it bought a 160-acre hill farm near Danville which it has made into an experimental farm for feeding livestock. This farm has two purposes: First, to test out new feeds and develop the best feeding methods and formulas for use by users of its feeds; and second, to train salesmen. All salesmen must work on the farm and actually feed livestock to learn the "semi-solid systems." One thousand hogs, 72 calves, 10,000 broilers, and 2,000 turkeys are raised yearly and 2,000 laying hens are kept. The operation of this farm has been very profitable aside from its value in research and in training salesmen.

The methods of selling some of the other products are also interesting. Two kinds of chicken feed are made, one for laying hens and one for young chicks. In order to adapt the latter product to families with small flocks, it was packed in 2- and 8-pound cans. To introduce the product, samples were given away and $14,000 was spent in advertising the free samples. As it cost $2 to give away a can worth 12 cents, this was a very expensive method of introducing the product. The procedure was used in the depression of the 1930's, when selling was hard. Many hatcheries were giving 3 extra chicks with each 100 purchased. Consolidated induced them to give a 2-pound can of chick feed in place of one of the extra chicks. Thus the buyer of 100 chicks got 102 chicks and a can of Consolidated's chick feed with instructions for its use. The can contained enough to feed 100 young chicks for one week.

One of the most interesting by-products is vinegar. Consolidated had a plant making delactosed whey known as DLW, a product rich in B complex vitamin. This was made from whey, a by-product in making cheese. In the process of making DLW, ethyl alcohol is produced. Since the company was not, and did not want to be, in the distillery business, it decided to transform the alcohol into vinegar. The demand for DLW is so large that Consolidated now has four vinegar plants and will soon have another. Thus, inadvertently Consolidated became one of the largest vinegar manufacturers in the country. Since it has no sales organization in the food industry, the decision was made to sell the vinegar in tank cars to manufacturers of salad dressings, pickles, and condiments.

The cheese factory obtains whey as a by-product. Whey is used to make DLW, and alcohol is a by-product of DLW. Alcohol is transformed into vinegar. Thus in a sense vinegar is the fourth in a chain of by-products from milk.

Dan Lewis worked for sixteen years developing the calf food, Kaff-A, which was placed on the market in 1942.

This product was given very little sales promotion of any kind but came to sell like hot cakes with almost no advertising. Lewis thinks he has an ideal calf food. Calves can be weaned when four days old and raised on Kaff-A until they are old enough to eat grass, hay, and other feeds with the grown-ups. Since milk is worth more when sold for human consumption than as feed for calves, it is profitable for dairy farmers to wean their calves as young as possible. Kaff-A seems to be the answer to their need. Kaff-A is made by a secret process but Lewis knows that with the product selling as it is, competing products will appear on the market. Sooner or later comparable quality in such products is to be expected. Can Consolidated keep ahead of competition?

Testing Selected Local Markets

The ability to make the most of opportunities is shown in the present campaign to introduce Kaff-A. The problem of Consolidated Products is to get Kaff-A firmly established in all markets before competitors appear. To do this, it needs to know how large the markets are and where they are located. The number of calves born each year is known. How many of them will be fed Kaff-A? Obviously, dairy farmers who sell fluid milk are anxious to wean their calves as soon as possible and sell the milk. But how about the hundreds of thousands of farms on which cows are a side line? How many farmers who have a few cows and who sell cream will bother with a commercial calf feed when they have their own skim milk for feeding the calves? Then how about farmers who sell milk to condenseries and cheese factories? In other words, just how much Kaff-A will each type of market absorb? Lewis wants to know these facts, and he wants to know them before competition appears.

To get the answers, two areas have been selected — New Hampshire and northern Illinois. These areas are being saturated with advertising — especially farm paper, radio, and newspaper — and dealer helps, and sales results are studied to determine various farm responses. New Hampshire represents the milksheds where all grain and protein feeds are purchased and most of the milk is sold to fluid markets. Northern Illinois represents a market where the farmers raise much of their grain and where some of the milk is sold to the fluid market, some to condenseries, some to cheese factories, and some to creameries. The farmer who sells cream has his skim milk to feed to calves and so is less interested in buying calf feed than the farmer who sells whole milk. Milk is less valuable when sold to condenseries and cheese factories than when sold to fluid markets. Farmers selling milk for such uses may, perhaps, buy less calf feed than farmers selling milk for the fluid market. The farmer with his own grain is less interested in buying the commercial feed than the farmer who must buy feed to supplement his own roughage.

The sales in these areas are to be compared with dairy cow population, with allowances for types of farming and markets for milk, and the results used as a basis of computing potential sales for the country. This information is needed to plan future production,

advertising, and other sales activities, as well as in setting quotas for various territories. As this is written, the Company reports satisfactory progress, but it is too early to give the final results.

How accurately this procedure will define the market obviously depends upon the representativeness of the special areas selected for testing. The selection of areas is more complicated than in the usual survey, because each test area must be suitable for a sales and advertising campaign, as well as representative of broader market areas. Offsetting this complication are the direct returns from the current sales effort and the progress toward actual market development.

The Teaching of Elementary Economics

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DURING THE LAST three years a surprisingly large number of new books embodying new approaches to the teaching of elementary economics have been published. At the present time, it has been reported, twenty-two different texts in elementary economics are currently being written or revised. That there should be so many texts being published or being prepared for publication is an indication, among other things, of a widespread discontent among the teachers of economics with the results achieved in the elementary courses.

To discuss the differences in approach and subject matter of these competing texts would involve us deeply in controversial problems of a technical nature — problems currently discussed in the learned journals. Rather than attempt to examine each in detail, this article will consider briefly the objectives of an elementary economics course and, against the background of these objectives, suggest some general propositions which would be valid irrespective of the type of texts used.

The Purpose of an Elementary Economics Course

Surveys of occupational intentions of students enrolling in elementary economics indicate that most of them are not planning to be professional economists. The large majority of the students enrolled in the first course are primarily interested in getting a better understanding of the world around them. Some few, it is true, will go on in economics to take advanced courses, but even they constitute a small minority of the students.

The question is: What should be the objectives of a course populated largely by non-major students — students who are not aiming toward professional competence in economics but who are interested in improving their ability to understand the events they see in the world around them?

The position taken in this article is that the primary purpose of a first course in economics is to prepare a student to learn from experience. Within the limits of an elementary course there is little possibility of finding answers to many important questions. Even if the first course were pointed towards the answering of specific questions — say the question of how best to achieve full employment — it is doubtful that the answers which would be appropriate at one time would be equally appropriate at a later time. What is more, new questions are continually arising and it is doubtful whether any college course can hope to supply ready-made answers for all questions present and future.

Rather, it would seem that the primary purpose of a first course in economics (and indeed, it might be argued, the purpose of economics in general) should be to give students enough perspective so that they can ask intelligent questions and evaluate some of the answers; for it is only after

a student has enough perspective to see the events occurring around him in relation to each other that they will have meaning. And so, we might say that the primary purpose of an elementary economics course is to prepare the student to learn from experience, which is, after all, the only source of all knowledge.

It is important in considering this general statement of objectives not to limit the meaning of the word "experience" too rigidly. A student who has achieved enough perspective to ask intelligent questions will, it is true, be better able to interpret his own personal experiences in the economic and business area than he would otherwise be. But this is not enough; he should also have an increased capacity to learn from contemporary developments outside the area of his own personal experiences. Newspaper reports of changes in employment, in exports and imports, in prices, in government revenues and expenditures, should all have more meaning to a student who has had a first course in economics than to one who has not. What is more, a student with enough perspective about the way a modern society is interrelated should be able to learn more from the experiences of the past or the experiences of other nations than one who lacks this perspective.

Once it is agreed that the purpose of a first course in economics is not to provide answers, but to prepare the student to ask questions — questions which will enhance his ability to learn from experience — the next question is, what type of course content and emphasis can best achieve this goal? To avoid extended discussion of this problem the answer will necessarily be rather general. The writer contends that an elementary economics course should be primarily concerned with the developing of an ability to interpret and use events occurring in the everyday world — even if these events lie outside the realm of personal experience. This ability to see facts in relation to each other and fit them into the structure of the mind for the determination of future thought and action is what has already been referred to as perspective. It has two aspects, which might be called *space and time perspectives.*

Whenever a well-trained person hears the phrase "facts show," he is properly cautious. He has learned that only as facts are seen in relation to each other are they significant, and that seeing facts in relation to each other presupposes some means of organizing these facts. Let us take an example. Suppose that the tariff on a particular product — say ceramic products — were reduced and that, as a result, residents of the United States were to divert their purchases from domestic producers of ceramic products to foreign producers. One of the direct effects of such a shift would be to cause unemployment among those persons formerly employed in the ceramic industry. An untrained observer might easily jump to the conclusion that a reduction in tariffs would typically cause unemployment. However, a more sophisticated observer — an observer who knew something about the way economic variables are interrelated — would inquire how foreigners were spending the dollars acquired as a re-

sult of their increased exports of ceramic products to the United States. Were these dollars spent — as indeed they might be — in purchasing automobiles and tractors in the United States, he would want to know how much additional employment was occasioned by the increased sales of automobiles and tractors. Thus, before he would venture to say "facts show," he would have to consider a wider range of facts than appears necessary to the untrained observer.

This ability to see the facts occurring during a short period of time in an economy *in relation* to each other may be called "space perspective." Only after a student has achieved a certain amount of space perspective — or has a mental picture of the way transactions occurring simultaneously in an economy are interrelated — is he equipped to learn from experience. Experience by itself is treacherous; the person who is impressed by an exceptional or unique experience may be misled from the correct answer in ordinary circumstances. It is *seeing in relation* that makes experience significant, and *seeing in relation* requires more perspective than an untrained person normally has.

This same point holds with respect to events occurring over an extended period of time. Economic events, properly viewed, are a part of a never-ending process of change. Great industries — say the carriage industry — rose, reached a zenith, and were replaced by other industries. Monopoly positions, which seemed so secure in one decade, have been completely destroyed by the introduction of new methods and new products in the next decade. Just as it is dangerous for a student to say "facts show" until he knows how the facts he is studying are interrelated during a restricted period of time, so it is dangerous for him to use and interpret facts until he can see them as a part of a never-ending process of change extending over prolonged periods of time. Let us call this ability to learn from facts arranged chronologically "time perspective."

Thus, when we say that the first objective of an elementary economics course is to enable the student to learn from experience, we are really saying that an economics course should be primarily designed to develop what we have called space and time perspective in economics. Once a student has developed such perspective, he will be in a position to ask intelligent questions and to arrange facts and experiences in a meaningful fashion.

Some Implications for the Teaching of Economics

If the purpose of an economics course is to give the student both space and time perspective, considerable thought must be given to the organization and coherence of the first course. A course which is largely topical may leave the student with some understanding of the various specialized branches of economics but with little knowledge of how these branches fit together. A precise knowledge of that branch of economics known as price theory is of little organizational value to a student who does not see how it is related to other branches of economics, such as money and banking, business cycles,

and public finance, whose operations are in various ways directly related to the flow of incomes and expenditures in the real world. Indeed, it might be argued that an *integration* of the various bodies of theory may be of more value (when it comes to organizing facts) than a precise knowledge of all the modern developments in each of the fields.

In addition to the importance of integration, we might also note the importance of careful *selection* when it comes to arranging the materials to be covered in a first course. A course which is largely concerned with price theory — with its emphasis on equilibrium and the adjustments that are supposed to bring about not only that happy state but also the efficient utilization of resources in it — is likely to leave the student with a distorted picture of the economy. Similarly, a course devoted primarily to the presentation of descriptive materials may leave the student without any means of tying together what he has learned into a workable picture of the economy.

But selection means more than a judicious balance between the various topics: It also means deciding what to omit from a first course. An attempt to include too much in a first course can easily overwhelm the beginning student. An interesting exercise in this connection is to list those ideas from the body of economics which are so fundamental that their omission from a first course would seriously cripple the students' ability to learn from experience. When such a list is made, it is usually surprising to note how much of what we once considered indispensable may be pruned from the typical first course in economics.

Another way of stating this problem of selection is to ask which ideas in the body of economics are so fundamental for the developing of perspective that they must be taught to the beginning student and which ideas may be omitted without serious harm. It is quite possible for a student to learn more from a book of five hundred pages than from one of a thousand pages. In this connection, another interesting exercise is to ask which of the various expository techniques developed by economists — such as supply and demand curves — are absolutely necessary for an understanding of the fundamental ideas, and which are not. How, for example, is it to be made clear to the student that the expenditure pattern implicit in the demand curve operates even though quantities and prices typically move together rather than inversely in the dynamic world where static demand curves have such limited application? Many of us have had the experience of learning that it is not the intrinsic difficulty of the fundamental ideas but the expository devices we have used which have served as a bar to student understanding.

If perspective is our objective in the elementary course, it is incumbent upon the teacher to recognize and point out the *gaps* in our knowledge of economic variables as well as the so-called laws of their behavior. Little is known, for example, about the motivational factors underlying many of the purchase decisions of consumers or the investment decisions of producers. There is, nevertheless, considerable speculation in the

body of economic theory about the nature of the factors underlying these decisions. This speculation should be regarded as a means of guiding future (and sincerely to be hoped for) empirical investigations. To present these speculations in a first course in economics as if they were statements of fact, as is sometimes done in connection with the marginal-utility explanation of consumer behavior, may easily mislead the student. He may, as a result, be led to making the error of misplaced concreteness — of thinking that he knows more than he does. Only by recognizing the gaps in the body of economic theory will the student be able to use his economics to *organize* the events he sees occurring around him.

In a complex society like ours few, if any, individuals have a wide enough range of experiences to learn much about an economy from personal observation. Yet, as was pointed out previously, if we expect an economics course to make a contribution to the ordinary student's education, it must serve largely as a means of organizing the events he sees (and will see) occurring around him. Most of these events are currently summarized and reported in the form of statistical totals or averages, such as: National Income, Gross National Product, Consumers' Price Index, Monthly Report of the Labor Force, and Federal Reserve Index of Industrial Production. If a first course in economics is to do the job it should do, it must, in addition to developing space and time perspective, equip the student with a knowledge of the meaning and uses of basic statistics in all these fields. It should explain how the magnitudes currently reported in magazines and newspapers fit into and measure the achievements of a modern economy. It should show how these statistical indicators might be used to trace and appraise current developments. It can be argued with some cogency that only as a student gains some acquaintance with these measures and gets some experience in using them will he be able to use what we have called space-time perspective in continuing the task of learning from experience.

In this connection, there is much to be said for including in a first course in economics a series of exercises designed to acquaint the student with these statistical measures. Exercises requiring the use of national income totals, price series, labor conditions, and the like can be for an economics course what laboratory exercises are for a course in geology: They can give the student some experience in handling the materials from which he is expected to continue learning in the future.

Finally, there is much to be said in the teaching of economics for heavy reliance on a discussion of current issues. A discussion, for example, of the European Recovery Program, in connection with the part of the course concerned with international trade, may serve to point up the importance of balance and perspective in appraising current developments. It may also serve as a means of acquainting students with additional statistical magnitudes, such as the balance of payments, foreign exchange rates, and gold holdings. What is more, such discussions may be used to emphasize in the stu-

dent's mind the important distinction between goals and actual conditions — that is, between ethical judgments on the one hand and factual judgments on the other. Both types of judgment necessarily play an important part in any public policy discussion, and it is important that students be aware of the limits as well as the uses of economics in connection with public policy issues.

To conclude: The contention of this article has been that the primary purpose of an elementary economics course is to develop such perspective on the part of the beginning student that he will be better able to learn from experience. To do this he should have enough economic theory to see how the events occurring in an economy are interrelated — how developments occurring in one part of the economy are related to those occurring in another part of the economy and also how events arranged chronologically are interrelated — that is, to acquire perspective of events in space and time. Partly as a phase of acquiring space-time perspective and partly as basic knowledge of the field, it is important that the student be acquainted with such prominent statistical measures as the national income, employment, and unemployment. But this is not enough; he should also be required to tackle some real problems, problems which require that he organize his materials in such a way as to arrive at some judgments deriving from facts, which, when considered in relation to economic or social goals, will permit him to take a clearly defined position on issues of public policy.

British Socialism: Success or Failure?

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BEGINNING WITH a definition of terms, one might ask, "Is what we call British Socialism the government ownership and operation of all of the means of production, as it is in Russia?" If we take socialism to have that meaning, let us analyze the extent to which the British economy is socialized.

First, there are the industries which were socialized long before the British Labor Party came to power — the post office, as in the United States; the radio; the telephone and telegraph.

Then there are some industries which were partly socialized before the present government came to power and in which the socialization has been extended by the Labor Government — the airlines; national insurance, including the old age and unemployment insurance which had been in existence for many years, and to which now has been added health insurance; and government-subsidized housing, which has been extended under the present administration.

Next comes the group of industries which have been nationalized by the present government. First, the Bank of England, which is not particularly important, because it previously performed virtually the same functions and was under considerable government control. Now, however, with the Bank of England nationalized, the Government can completely control credit if it wishes to do so. Of course, the banking system itself is still in private hands, with the exception of the portion of banking operations which is carried on by the cooperative movement.

The most important industries which have been nationalized are coal, railways and other inland transport, electricity, gas, cables, and wireless. Next on the books to be nationalized is the steel industry. Moreover, in the cities throughout the country there has always been a good deal of municipal housing and transport; here, too, socialization has been extended by the different municipalities.

The remaining industries in the country, equivalent to approximately 80 percent of the economy, are in private hands. Not more than 20 percent has been socialized.

Economic Planning and Control

We might ask whether British Socialism constitutes over-all economic planning.

The Government now controls all foreign trade and the balance of payments. It determines what commodities can be purchased from abroad, from what countries, and in what quantities. It buys all the cotton for distribution to the textile industry, for instance. It allocates scarce materials among various industries. It sets production targets for industry and agriculture, and export targets for each industry. It encourages the production and sale of goods for export and discourages the domestic consumption of goods which are exportable.

Furthermore, it encourages labor to

shift into the most needed employments. It is correcting some of the maldistributions of the war, during which thousands of cotton workers and coal miners left those industries. They have not been too keen to go back and have had to be persuaded to do so because cotton and coal are urgently needed, not only for domestic purposes but for export.

The Government regulates industrial location. It does not leave the decision as to where a company is to locate a new factory completely to the free will and determination of that company. The location of the factory is regulated through the Board of Trade and companies are encouraged to set up their factories in so-called "development areas," where chronic unemployment was common prior to the war.

The Government controls capital investment and directs it into the most urgent projects. It rations scarce consumer goods — at a cost to the taxpayers, in subsidies on food, of probably £485 million a year, which is equivalent to about $4 per family per week, or 20 percent of the average earnings of each family.

Is this socialism? Couldn't all this be done under capitalism? In fact, wasn't a great deal of it done in the United States under capitalism during the war? Much of it was made necessary by the emergency war and postwar conditions.

If we conclude that all this cannot be socialism, is it what has been called Fabian Socialism — the gradual step-by-step acquisition of one industry after another, combined with economic planning of the entire economy? Or, perhaps, is it a mixed economy, in which the Government intervenes in the operation of the private economy to guarantee full employment and prevent monopolies from extorting abnormal profits?

Perhaps there is not much difference between the two except a question of emphasis. Is the emphasis upon achieving as much socialization as possible, as quickly as possible, or upon allowing private enterprise to continue to function as fully as possible, as long as possible? Between these two questions of emphasis lies the conflict between the left and right wings of the Labor Party, the conflict between the group led by Aneurin Bevan, the Minister of Health, and the group personified by Ernest Bevin, Secretary of State for Foreign Affairs.

Prime Minister Attlee has expressed the aims of the Government in the following words: "At one end of the scale are the Communist countries; at the other end the United States of America stands for individual liberty in the political sphere and for the maintenance of human rights. But its economy is based on capitalism, with all the problems which it presents and with the characteristic extreme inequality of wealth in its citizens. As a new country with immense resources it has not yet had to face the acute problems which have arisen in the other capitalist countries.

"Great Britain, like the other countries of western Europe, is placed geographically and from the point of view of economic and political theory between these two great continental States. That is not to say that our ideas

are, in any sense, 'watered-down capitalism' or 'watered-down Communism'; nor that they constitute a temporary halting place on a journey from one creed to the other. Ours is a philosophy in its own right. Our task is to work out a system of a new and challenging kind which combines individual freedom with a planned economy, democracy with social justice. This task, which faces not only ourselves but all the western democracies, requires a government inspired by a new conception of society with a dynamic policy in accord with the needs of the new situation."

In other words, British Socialism contains some elements of genuine socialism, in the sense of complete social ownership and operation of industry. It includes a great deal of economic planning, more regulation of consumer and producer choice under present-day emergency conditions than most British Laborites would desire to see made permanent, and, curiously enough, it includes even some actual encouragement of competition, such as the outlawing of monopoly practices under the recent Monopolies Act.

How Successful Has the Program Been?

The Coal Industry. Last year the National Coal Board lost £23¼ million ($93 million) on its first year's operations. A large part of that loss was due to increased costs of production, mainly wages. Wages were raised to promote cooperation on the part of the workers and to recruit more miners. The Board had inherited a very bad condition of industrial relations, which could not be smoothed out in the course of a year. And the miners, who had been working for decades to bring a labor government into power, naturally expected that with their Government in power the labor management would do certain things for them. Naturally, wages were uppermost in their minds.

Increases in wages and other costs could have been covered by increasing prices more. But the Board is charged with covering costs over an average of good and bad years. If it had increased prices enough to cover last year's losses it might have had surpluses in subsequent years. Many losses from unprofitable mines could have been eliminated by closing the mines. But the Board has social responsibilities which are just as important as its responsibilities for efficiency. It may be necessary to keep some unprofitable mines in operation until the Board can reorganize them and install the proper modern equipment for enabling them to operate economically. And the Board is responsible for the miners and the communities in which they live. Until employment in alternative mines can be provided, it should not deprive men of employment where they have normally been occupied.

The Board has been accused of bad administration and failure to decentralize its operations and give divisional boards more authority. Able members have resigned in protest because this has not been done. Undoubtedly there have been inefficiency, groping for the right policy, and hesitation in taking necessary action. But the Board is a pioneer venture, in a field strewn with obstacles, not the least of which is

the skeptical labor force, accustomed through decades to an incessant struggle against an enemy which seldom gave evidence of any concern for the rights of labor.

Labor in the mines, as in British industry in general, has been taking things more easily, in the present era of full employment, than it used to in the old days, when there was the constant fear of being fired if the men did not work hard. Absenteeism has been high but is gradually being reduced. Productivity has not increased as much as it should have.

Labor had been campaigning for a five-day week for years and naturally expected a Labor Government to introduce that work week when it came into power. However, it was introduced reluctantly by the British Government, because the leaders knew it was not the proper time to introduce the five-day week. Extra work was needed for production and to get Britain out of its present state. But it was a decision that simply had to be made because of the labor realities of the situation. Overtime work was provided for but it has not been very popular, because most of the workers have been earning enough to cause them to pay the basic income tax rate of 9 shillings on the pound, or 45 cents out of a dollar. They think twice before they go to work an extra day and have so much taxed away from them, particularly when there is so little for them to spend their money on because of the encouragement of exports and discouragement of consumption at home. Besides, a heavy purchase tax is placed upon most articles in order to persuade people not to consume them, so that there will be more for export.

In recent months, conditions in the mining industry have been showing improvement. Profits have replaced losses, productivity has increased, absenteeism has been reduced, production has approached the target set for it, and the country has returned to exporting coal. Perhaps the tide has turned, as it seems to have turned in some other aspects of the British economy.

Health Insurance. Not much can be said yet about how successful the national health insurance program is likely to be, since it was introduced only last summer. It does mean completely socialized medicine: thorough medical care for everybody, free prescriptions, hospitalization if needed, surgery, nursing care, dentistry, optical care, free spectacles, free radium or any other expensive material if required; medical care for everybody on the basis of need.

This plan has already run into some difficulties, because Britain is extremely short of doctors, nurses, hospital accommodations, and every other facility. With the increased demand that has naturally arisen from poor people who hitherto have hesitated to spend money for medical care, a tremendous strain is being placed on the system. It remains to be seen how it will work out.

Economic Planning. There is without doubt a great deal of regimentation of the average consumer, as well as the average producer, in his individual freedom of choice. The situation is a far cry from the "invisible hand" of Adam Smith.

An English writer in a recent issue of the *Reader's Digest* complains that

you can't normally buy as much milk and eggs as you wish. The best British cheese and pottery and textiles and clothing are exported. Canadian and American cheese, Czechoslovakian clothing, and cheap crockery are imported for sale to the British housekeeper. Economy must be exercised in the use of electricity. An army of officials is employed to enforce all these restrictions. You can't spend more than £100 in decorating your home. You're not allowed to spend valuable materials and labor in the construction of a fancy, elaborate country mansion at a time when blitzed-out slum areas need clearing and working-class housing needs construction. Executives are hampered in making quick decisions in business.

One wonders whether the critics of the British system of economic planning would really like to substitute the reign of free consumer-and-producer choice for the present system of rationing and allocation. Would they really like to have the very scarce supply of essential foods rationed to the population according to the demand of the fullest purses? Would they wish to allow every businessman who thinks he can market some luxury gadget to use the scarce steel and other materials, and scarce labor, and build a factory out of these scarce materials to produce and sell the new gadgets to the highest bidder, when the working people are desperate for decent houses in which to live, and shipbuilders and the National Coal Board and the textile industry are crying for the steel with which to make the new machinery which is so badly needed to lift Britain's industrial productivity? Shall the scarce foods and other materials be rationed by a government which represents all the people, in accordance with need, or shall they be rationed according to the old laissez-faire price system in accordance with the effective demand of the most affluent buyers?

There may be labor leaders in Great Britain who would like to retain all this power of intervention in the hands of the Government. Certainly there are none who would like to see the conditions of scarcity which gave rise to the system continue.

Incidentally, these systems were not originally imposed by the Labor Government. They were imposed by the Coalition Government under war conditions, and those conditions have not yet been eliminated.

Other Programs. Now let us consider a few of the Government's other claims to achievement. First, labor morale. There have not been many strikes in Britain since the Labor Government took over. And most of the Conservatives will agree that if a Conservative Government had been in power it would have had more difficulty with labor — more strikes. The fact that labor has had the power has enabled its leaders to restrain the union members.

Second, nobody is starving in Great Britain. A visitor to the slums may see dirty children playing around in dirty backyards, but they are healthy children. They show no evidences of malnutrition. Each child gets its necessary supply of milk under the rationing system, and every infant gets concentrated orange juice.

The housing program represents an effort to make sure that everyone in the population is adequately housed. Conspicuous progress is being made under tremendous difficulties, because the British lack timber and have to import it. Other housing materials also are in short supply.

The control of inflation is an achievement. Although the wholesale price level in England rose even more between 1938 and the present time than in the United States, the cost of living has risen 44 percent since 1939 as compared with 71 percent here, and wage rates have risen 76 percent as compared with 106 percent in the United States — partly, it must be admitted, at the cost of the food subsidies, paid for out of taxation.

The resources of the country are being planned on a long-term basis. Coal mining is going to be developed on that basis. A great deal of capital expenditure will be devoted to tapping coal reserves which can be more efficiently mined under modern methods, in the long run, than could be accomplished economically by private employers under short-run planning. Electricity and water power are being developed on the same long-term basis.

Then there are the development areas previously mentioned. The Board of Trade is building factories in South Wales and certain other areas of Britain where there was chronic unemployment before the war, and is making employment available, particularly for handicapped workers, for older workers who may have had a touch of silicosis from working in the mines but who are perfectly capable of engaging in other types of employment if it is provided for them, and for the wives and daughters of the miners. An effort at long-term planning (which had its beginnings under a Conservative Government, before the war) is being made to prevent, ever again, the recurrence of the chronic mass unemployment of the prewar era in those regions.

Last, and most important, there is the achievement of reducing the unfavorable balance of payments from a deficit of £630 million ($2,520 million) in 1947 to £120 million ($480 million) in 1948. This year it is hoped to cut this deficit further, to perhaps £30 million ($120 million). In some ways this is a personal achievement of Sir Stafford Cripps, and points to the importance of leadership in carrying out any government program.

Many Problems Still to Be Solved

The British economy has many faults, but most of them have been inherited from the past and cannot be laid at the door of the present government. Comparisons are sometimes made between productivity in a British nationalized industry and in the same American industry under conditions of private enterprise. An American newspaper recently compared the productivity of the Battersea power station in London with that of Consolidated Edison's electric plant in New York City. It implied that, because the productivity of the American plant was much higher than that of the British, American Capitalism was superior to British Socialism. But that factory was in existence in London before the Labor Government came to power. Productivity in American indus-

try is higher than in British, anyway. That has been true for decades and proves nothing about socialism. It proves, as everyone knows by now, that British industries are not as productive as American, and the British labor leadership seems determined to do something about that situation.

Productivity in the British cotton textile industry, which is under private management, is just as backward as productivity in the nationalized industries. Both cotton and coal, incidentally, were exploited by their private owners at the end of World War I, and profits were taken out of those industries by absentee owners rather than plowed back into the installation of new machinery. If the capital which was taken out of those industries at that time had been put into better machinery and better plants, Britain would not be in her present condition.

Because of the constant threat of unemployment and its almost continual presence under the old regime, labor developed techniques for restricting output which have been carried over into the new era to plague everyone. These are faults of trade unionism, yes, but a trade unionism functioning under capitalism, not under socialism. They should not, therefore, be listed as faults of British Socialism, although they *are* faults of British Labor which British Labor may correct in time. The leadership already has set about to do so, but a great deal of time is needed to re-educate the mass of the people to abandon the practices of decades.

The real test of socialism and planning will come when the country and the world are threatened with another depression. If the nationalized railways, mines, and utilities take advantage of the falling off in demand for goods in the economy to increase their purchases of heavy equipment for replacement of worn-out and obsolescent machinery, and to expand the development of new capital equipment, this expansion in the socialized segment of the economy could operate as a substantial buffer against depression in the economy as a whole. Then, also, will come the genuine test of the effectiveness of economic planning in making the desired adjustments to prevent unemployment and to maintain the aggregate demand for goods.

In summary, if by socialism is meant the social ownership and operation of the basic means of production, socialism has been tried in Great Britain to a limited extent only.

The experiments in that direction under the present Labor Government have not been conspicuously successful, nor could they be expected to be, undertaken as they were at a time of great economic stress in the community. In the case of coal, they were made under bad conditions inherited from the regime of private ownership.

The Government has been making mistakes in the management of the socialized industries, and learning from these mistakes. Evidences of improvement in the management can be observed. Many of the more cautious leaders of the British Labor Party hope that further action in the direction of socialization will be taken slowly, and after the Labor managers have obtained much more experience in learn-

ing how to manage socialized industries efficiently.

If by socialism is meant a mixture of private enterprise and government enterprise, operating under a system of over-all economic planning of the more critical aspects of production, distribution, and consumption, then socialism is certainly being tried in Great Britain today. It is being tried under difficult conditions. It is succeeding in some respects and failing in others.

It remains to be seen what the verdict of history will be — or, in the short-run future, what the verdict of the electorate in 1950 will be regarding its achievements.

A part of that verdict will depend upon the extent to which the British people maintain their austerity program and cooperate with the government leaders. Another part will depend to a considerable degree upon the long-run wisdom of the planners.

Preparation and Use of a Cash Forecast

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ONE OF THE MARKS of good management is the ability to maintain an adequate supply of cash without, at the same time, having too much in the way of unemployed funds. This is frequently a difficult task; sufficient funds must always be available to meet regular recurring items such as payrolls and payments to trade creditors, less frequent tax payments, and such unusual needs as those for maturing long-term obligations and expansion of plant or activities. On the other hand, cash is not a productive asset and unless excess cash funds are put to work as investments in securities or reinvested in additional productive enterprise assets, management is subject to criticism for failure to utilize properly all enterprise resources.

This difficult problem of steering a careful course between too large and too small a supply of available cash has been made more difficult by the general adoption of the accrual system of accounting, which emphasizes income and expense rather than cash receipts and disbursements. This tends to encourage neglect of the vital problem of proper management of cash resources. Many concerns which show a satisfactory net income figure each year find more and more difficulty in meeting daily demands for cash. Careful preparation and alert use of a cash forecast can do much to counterbalance this tendency and to aid management in proper control of its cash problem.

A cash forecast is an organized estimate of what cash requirements (i.e., disbursements) and cash receipts will be, month by month, for some period extending into the future. If desirable, the forecast can be placed upon a weekly or even a daily basis but this is generally necessary only when a financial emergency demands day-by-day attention. With a general budget procedure in use, the cash forecast is but one phase of the over-all budget program. Even in the absence of general budget procedures, however, a cash forecast can be prepared and used to real advantage.

Preparation of the Forecast

The following steps are involved in preparing an adequate cash forecast:

(1) Review of present and prospective operations in order to compile schedules listing all sources of cash and all cash requirements.

(2) Estimate of amounts to be received or expended.

(3) Allocation of receipts and disbursements to monthly (or other) periods.

(4) Organization of the data in such a manner that they are useful and convenient.

To insure that all sources of receipts and all requirements for expenditure are included requires a thorough study of all phases of enterprise activities. The single best source of such information is the statement of income, or statement of profit and loss. This should provide a list of all income sources of cash and all operating expense requirements. Certain expenses such as depre-

ciation, bad debts, amortization of patents, and the like may not call for cash outlays in any period; others for insurance, leasehold improvements, and equipment additions may require expenditures in only certain of the periods for which the forecast is prepared. This distinction is of considerable importance in allocating receipts and disbursements among months; it is also helpful at this point in avoiding the improper inclusion or omission of any items.

In addition to the income statement, any established or prospective plans for obtaining funds through financing must be considered. Sale of capital stock to the public or to employees, borrowings from banks or other sources, or proposed additional investments by partners, in the case of a partnership, must all be considered. On the expenditure side, any commitments or plans for plant expansion or purchase of equipment, maturing debt or other obligations, capital stock redemption or repurchase programs, bonus arrangements, dividend requirements, possible losses under damage suits, and any other possible demands for cash must be included.

Estimating the amounts to be received from specific sources or to be expended for certain needs is always something of a problem but is never quite as difficult as it appears. Methods of arriving at these amounts vary considerably, depending upon the nature of the items in question and the company organization. Whatever the problem, however, serious efforts to arrive at accurate amounts are generally reasonably successful.

This task should be attacked on a detail basis; that is, sources and requirements should be subdivided so far as possible and estimates made of the amounts in each classification. Advice should be obtained from the various members of the organization best informed on special subjects. The sales manager should assist in estimating sales, the shop foreman in estimating operating expenses and scrap sales, the credit department in estimating collections on account, the planning and purchasing departments in estimating payrolls and payments on accounts payable. This phase of the forecast, more than any other, requires the complete cooperation of all departments of the concern.

Allocations of estimated receipts and disbursements to proper months calls for consideration of such factors as seasonal fluctuations in sales and operating activities, credit terms granted and received, policies regarding payment of bonuses, vacation wages, insurance premiums, and commitments on construction contracts. For example, sales must first be estimated by months. Then cash collections resulting from sales must be estimated, taking into consideration the beginning accounts receivable, monthly sales, credit terms granted, and paying habits of customers. Only by combining all these factors, and perhaps others in special cases, can a reasonable estimate of cash receipts from sales be made.

Estimates made for a considerable period in advance are of course susceptible to error, and it is essential that they be revised as soon as there are indications that the figures are out

of line. It is generally advisable to collect monthly data on actual receipts and disbursements in the same form as used for the forecast. Regular comparison of the forecast amounts with actual receipts and disbursements will indicate any errors in the estimates, which should be corrected immediately. Good budget procedure requires that the forecast be considered quite flexible and adjusted as required. Analysis of the estimated and actual amounts should indicate not only the existence of any differences but also the reason for the difference, thus permitting accurate revision of the forecast.

Organization of the Forecast

After estimating receipts and disbursements by months, organization of the forecast is the remaining problem. Any desired organization may be followed but the following requirements of a good forecast should be observed:

(1) The forecast should be summarized in a single schedule presenting only the important features and supported by supplementary schedules containing such detail as may be required.

(2) The summary should provide
  (a) Total receipts by months.
  (b) Total requirements by months.
  (c) The excess of receipts over requirements.
  (d) The available cash balance at the end of each month.

(3) In so far as practicable, requirements which can be controlled as to month of payment should not be merged with disbursements which must be made in a specific month.

(4) Provision should be made for later comparison of the forecast with actual receipts and disbursements for the period covered.

Suggested forms for preparation of the forecast summary, together with supporting schedules, are appended. These are not intended as models to be followed in every case but as an indication of the manner in which the essential data might be summarized and presented. The supporting schedules are used to collect the detail estimates of requirements and are divided into two general sections, one for regular requirements recurring monthly and another for requirements not recurring monthly. This division, like the entire forecast organization, is intended to emphasize distinctions in the nature of the items to be estimated. For example, certain taxes are paid monthly, others quarterly, and still others annually; they may be based upon sales, payrolls, net income, or property valuation. If the company pays insurance premiums for a three-year period in advance instead of renewing policies on an annual basis, the monthly requirements for cash are different. The same is true of other prepayments such as those for rentals, supplies, and the like. This must be considered both in estimating the amount and, in some cases, in allocating the payments among the periods concerned. Proper separation of the prepayment and accrual types of expenditure from those on a current month-by-month basis makes the forecasting problem less confusing.

Use of the Forecast

Once prepared, the forecast is of first importance in assisting management to anticipate and thus avoid any serious shortage of cash or any tendency to accumulate unnecessary cash.

THE BLANK COMPANY
FORECAST OF CASH POSITION
for the year ended 12/31/48

	JANUARY	FEBRUARY	DECEMBER
Estimated Cash Receipts			
Collections of customers' accounts			
Cash sales			
Other income			
Borrowings			
Other			
Total receipts			
Estimated Cash Requirements			
Regular requirements recurring monthly			
Payments to trade creditors			
Payrolls			
Manufacturing expenses			
Selling expenses			
Administrative expenses			
Other			
Regular requirements not recurring monthly			
Prepayments			
Accruals			
Other cash requirements			
Acquisition of fixed assets			
Repayment of borrowings			
Total requirements			
Excess of estimated receipts over estimated requirements			
Estimated balance at beginning of period			
Estimated balance at end of period			

Using the forecast as a basis, as modified or supported by actual operations, the responsible official can look ahead several months to any shortage or excess and make arrangements to borrow or invest accordingly; in case a shortage is foreseen, perhaps temporary postponement of certain expenditures can be worked out. Second, comparison of the forecast with actual operations may aid in controlling the flow of cash. Failure to obtain from accounts receivable as much cash as was estimated may indicate laxity on the part of the

THE BLANK COMPANY

CASH FORECAST — SUPPORTING SCHEDULES

for the year ended 12/31/48

REGULAR REQUIREMENTS RECURRING MONTHLY	JANUARY	FEBRUARY	DECEMBER
Payrolls			
Factory			
Office			
Executive			
Total payrolls			
Manufacturing Expenses			
Freight in			
Heat, light, and power			
Repairs and maintenance			
Factory supplies			
Rent			
Small tools			
Total manufacturing expenses			
Selling Expenses			
Traveling			
Advertising			
Telephone and telegraph			
Miscellaneous			
Total selling expenses			
Administrative Expenses			
Stationery and printing			
Office supplies			
Telephone and telegraph			
Subscriptions			
Donations			
Total administrative expenses			

credit and collections department. A discrepancy between anticipated disbursements on account and actual payments may indicate failure to take full advantage of credit terms offered or, conversely, a failure to pay accounts when due, with a consequent loss of cash discounts and possibly of credit rating. Careful comparison of the forecast with actual results frequently re-

THE BLANK COMPANY

CASH FORECAST — SUPPORTING SCHEDULES

for the year ended 12/31/48

REGULAR REQUIREMENTS NOT RECURRING MONTHLY	JANUARY	FEBRUARY	...	DECEMBER
Prepayments				
Insurance — general				
Insurance — life of officers				
Insurance — group				
Supplies				
Office				
Advertising				
Fuel				
Total prepayments				
Accruals				
Federal income taxes				
State income taxes				
Real and personal property taxes				
Social security taxes				
Interest				
Legal and auditing				
Total accruals				

veals discrepancies requiring attention before a situation gets out of control.

Related to the proper use of a cash forecast are some possible misconceptions of its nature and purpose. It should be fully understood that the procedure suggested here is not intended as a means of forecasting financial results; rather it is a method of organizing and using estimated cash receipt and disbursement data to facilitate adjustments in financial plans and policies as business developments make such modifications necessary. Neither does the forecast represent a goal or fixed program to be carried out regardless of changes in circumstances. It is a flexible estimate of anticipated transactions and, properly used, should help rather than retard the changes in operations and policies necessary to cope with changing economic conditions.

Polish Coal in the European Economy

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THE POLISH COAL industry emerged as a distinctly nationalistic enterprise in about 1922, almost immediately after Poland was again re-created as an independent state. Poland then fell heir to 78 percent of the Upper Silesian coal field. The division of this field, according to the agreement of Geneva of June 16, 1922, was as follows:

Nation	*Square Kilometers*	*Percent*
Germany	600	7
Czechoslovakia	1,300	15
Poland	6,600	78

After World War II, the remaining portions of the German holdings were taken over by the Polish government.

The coal industry thus acquired by Poland ranks among the more abundant of continental Europe. Among the more important producers of western continental Europe, Poland is now producing 6.5 million metric tons monthly as compared with 7.7 million metric tons in the Ruhr, 2.6 million tons in France, and 1.1 million in the Saar.

Coal Fields in Poland

The principal coal fields are in the East Upper Silesia: the Dombrawa, a northeastern extension of the East Upper Silesian field, and the Krakow, a little to the east of the main Upper Silesian field.

The East Upper Silesian field is the most important Polish coal field. There are numerous seams over 3 feet thick and a few up to 30 feet thick; in places two or more seams combine to form seams 50 to 60 feet thick. It is not unusual for five or six seams at one mine to be more than six feet thick.

The estimates of reserves rank the East Upper Silesian field with the Ruhr in extent of resources. One report of geological investigations compares these two districts as follows:[1]

Resources, in billions of tons, definitely established up to a depth of 1,200 meters (4,000 ft.) are:

Upper Silesia	
Workable	71.2
Conditionally workable	21.5
Unworkable	21.9
Rhine-Ruhr	
Workable	34.2
Conditionally workable	14.4
Unworkable	16.6

The depth of coal seams varies from 400 to 800 meters, giving rise to certain difficulties of mining such as high underground temperatures, flooding, and ventilation. Nevertheless, the seams lend themselves to mechanization and efficiency in mining methods. The output per man-day exceeds that of both the Ruhr and the British mines; in fact, it is the highest in Europe.

Comparative output in metric tons per man-day in European nations in 1947 averaged as follows:[2]

Great Britain	1.461
Germany (British zone)	1.200

[1] *Coal Mining in Silesia.* (Hanover; Akademischer Forschungskreis für Einskriegwirtschaftliche Frager, 1947)

[2] Economic Commission for Europe, Coal Division, *Monthly Bulletin of Coal Statistics,* No. 1948, p. 4.

Poland	1.686
Czechoslovakia	1.465
France	0.950
Sarre (Saar)	1.161
Belgium	0.860
Netherlands	1.639

All indications point to the Upper Silesian coal area of Poland as playing a role of increasing importance in the economy of western Europe. In addition to the prewar shipments of coal to the east German industrial cities, the Berlin area, and central and southern Germany, the Silesian district must maintain shipments to the Scandinavian nations and also assume a large part of the requirements of France, Italy, Hungary, and Switzerland.

Polish Coal in the Interlude Between Two Wars

The exigencies of World War I and the peace treaties that followed produced profound disturbance in the coal industry of Europe and to some extent in the world coal trade as well.

Postwar changes resulted in a severe decline in the British export trade in Europe, a sharp rise in German production and exports, the entry of the Polish East Upper Silesian coal field into the European markets, and a decline of coal consumption in the bunker trade.

Five major factors that were concerned in substantially modifying the prewar structure of the European coal industry were:

1. Changes in national boundaries effected by the peace treaties.
2. Effect of coal and coke reparations requirements.
3. Rise of competitive fuels.
4. Expansion of coal-mine capacity in response to a drive toward economic self-sufficiency among the several nations.
5. Increase of government participation in the conduct of the coal industry.

The East Upper Silesian coal field of Germany and the Dombrawa coal field of Russia were included in the newly created state of Poland; the Saar was removed from German jurisdiction until 1935; Alsace-Lorraine was transferred to France; and Luxemburg was included in the Belgian customs union.

Probably the most significant change in the structure of the coal industry resulted from the change in boundary between Germany and Poland in the Silesian district. Before the war, the Upper Silesian coal fields were in German territory, and these fields together supplied the bulk of the coal needs in the eastern districts of Germany, with some export to Russian Poland. In the postwar readjustments, the East Upper Silesian field, with its annual output of 30 million tons or more, was awarded to Poland. This transfer, in 1922, left eastern Germany without adequate local coal supplies, whereas Poland controlled a productive capacity in excess of its own needs.

Under an agreement of three years' duration, and terminating in June, 1925, Germany agreed to take coal from Poland at a rate of 6 million tons a year. Shipments during 1923 and 1924, however, exceeded this amount, the actual quantities delivered being 8.4 and 7.0 million, respectively. In the meantime, Germany increased its productive capacity in the western Upper Silesian field to compensate its losses in the eastern field. At the expiration of the agreement in June, 1925, pro-

duction in Germany's own field had so expanded as to take care of the local domestic needs, and the imports from Poland declined sharply. By 1926, the East Upper Silesian district in Poland had lost its coal markets in eastern Germany to the new mining developments in German West Silesia. The net effect of the German development was to expand the productive capacity of the entire Silesian area. With the trend of coal shipments from 1922 to 1936 as shown in Chart 1, and with surplus mine capacity available, the Polish producers, deprived of their usual market, were compelled to seek outlets elsewhere. Only the occurrence of a prolonged strike among British coal miners in 1926 relieved a threatened idleness in the mines by opening the Scandinavian coal market to the Polish industry.

The shift from British to Polish coal, which began in the later months of 1925, is portrayed in Chart 2. With the exception of 1920 and 1921, consumption of coal in the Scandinavian countries remained relatively constant. The British coal industry recovered part of its lost markets after an agreement had been reached with the Scandinavian nations on the allocation of tonnages between the two coal-producing countries. Since World War II, British coal has almost disappeared, and, temporarily at least, has been replaced by coal from the United States. Exports to these countries from Poland increased from 0.5 million tons in 1925 to 5.4 million tons in 1928, and remained above 5.0 million tons through 1932.

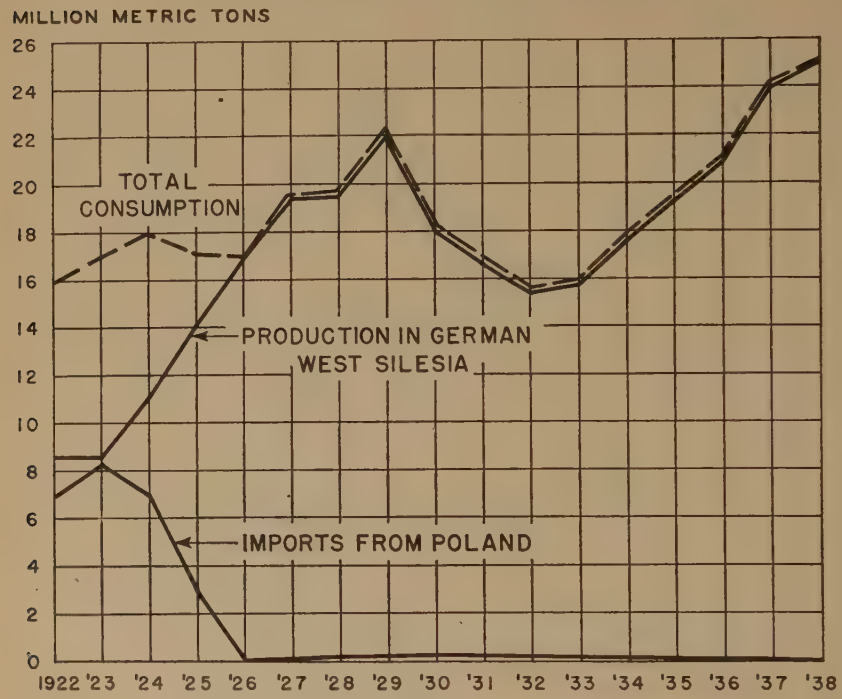
The British finally succeeded, in 1933, in securing a degree of stability in the Scandinavian markets through agreements whereby Sweden imported 47 percent of her annual requirements from the United Kingdom and Norway took 70 percent of hers from that source. Nevertheless the Polish coal industry was firmly established in the Scandinavian market. This was the situation in 1939, when Europe was again plunged into a war which upset all previously existing coal movements.

Second in importance to the rise of the Silesian Polish coal industry as a factor in continental trade were the German reparations shipments to France, Belgium, and Italy. The demand for reparations coal and coke was occasioned by the acute fuel shortage in those countries and the need for fuel to bring about a rehabilitation of industry. Except in 1923, German postwar exports to France exceeded the 1913 level, whereas exports to Belgium showed a slight decline. The most important change, however, was in the Italian market, where the German shipments, reparations and otherwise, seriously affected British shipments.

Third, the decline in world shipping and the rising competition of oil-driven vessels accentuated the decline in bunker-coal use. Since 1914, marine engineering has tended strongly away from the coal-fired vessel in favor of ships either oil-fired or operated by Diesel motors burning oil. Coal-fired vessels declined in tonnage between 1914 and 1937 from 44 million, or 97 percent of the world total, to 32 million, or 49 percent. The British bunker-coal trades, most severely affected of all coal producers, fell from 21 million tons to 12 million tons in the same period.

CHART 1

THE EAST GERMAN COAL MARKET



Another important factor affecting the European coal industry in the postwar period was the development or expansion of coal mining in smaller nations. This was particularly the case of the Netherlands, whose output rose from 2 million tons in 1933 to 14 million tons in 1937. Substantial but less spectacular increases were recorded in Belgium and France. In Germany itself, there were phenomenal increases in brown coal production to offset in part the loss of Upper Silesia and the Saar.

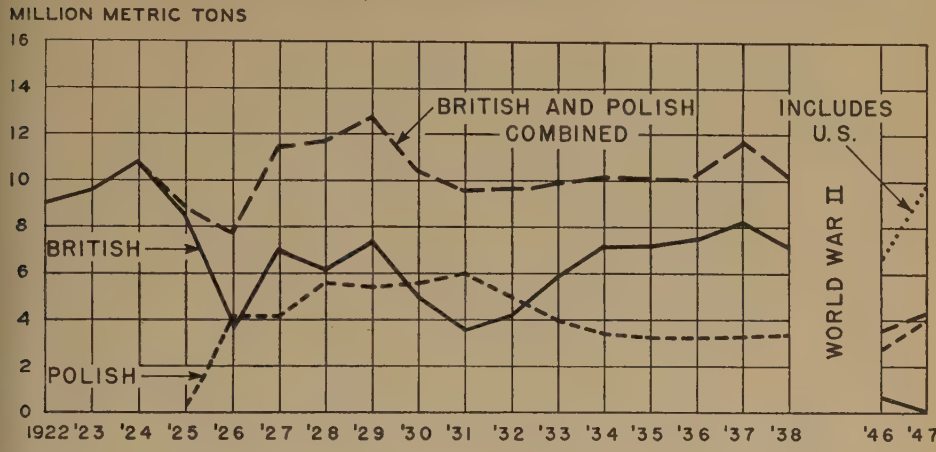
The postwar expansion of coal-mine capacity, partly a response to temporary exigencies not related to long requirements of the market, and also due to a drive for economic self-sufficiency, did not permit the competitive advantages and disadvantages due to ease of mining, closeness to market, and skill of labor to exercise free play in shaping the structure of the European coal industry. Practically all European governments have applied special measures to regulate competition on the home market, to swing the balance of competition abroad in favor of their own nationals, and to enter into preferential trading arrangements as exporters or importers of coal.

World War II

The war years upset the existing channels of coal movement and depressed coal production in war-occu-

CHART 2

SHIPMENTS OF POLISH AND BRITISH COAL TO SCANDINAVIA



pied nations, despite German efforts to get coal to bolster the war efforts. The Ruhr, the Saar, Belgium, and the Netherlands, especially, were affected. The Polish coal industry, too, declined because of a combination of factors, viz., shortage of labor, old and inefficient equipment, lack of rolling stock, and the practice of robbing handy coal.

A number of Polish miners were mobilized into the Polish or German armies, thrown into concentration camps, or put into forced labor. Of these only a few returned; the others were killed, taken prisoners, or became invalids. However, by October 1, 1945, new men who had been trained in mining were used to replace women whose employment was discontinued at that time.

Mining machinery was not replaced or properly repaired during the war, so that frequent breakdowns and stoppages occur. Whereas coal was loaded on cars directly from the sorting machinery prior to the war, the lack of cars results in the piling up of coal on the ground, to be loaded when cars become available, which in turn results in an increase of stocks and the danger of spontaneous combustion.

The German practice of robbing handy coal was to extract the maximum of coal with complete disregard of the usual practice of preserving the pits in operation and simultaneously preparing new ones. After the war the miners had to work on the latter phase of mining to a larger extent than under normal conditions, with a resulting decline in production.

Coal production reached a low postwar ebb in 1945, with an average monthly output of 2,281,000 metric tons, and increased yearly thereafter, reaching an average of 5,509,000 tons in the first quarter of 1948. This was equal to the 1937 average.

After the War

Europe emerged from World War II with new political alignments and new

political objectives among the nations. The U.S.S.R. has definitely cast herself in a role of isolation and communist ideology and is endeavoring to extend her economic powers and ideology into neighboring states and even into countries beyond her immediate boundaries. As the isolationist and antagonistic attitude of the leaders of the U.S.S.R. became more evident, it was followed by a grouping of western powers looking to the United States for leadership in opposing or checkmating the overt aggressiveness of the U.S.S.R.

In the conflict of interests between East and West, there are certain distinctive geographic and natural resource characteristics on the periphery of Russian territory which are of international import. The areas which are of particular interest are (1) Southern Manchuria; (2) the Near East (collectively embracing Iraq, Iran, the Dardanelles, the Bosphorus, the Levant, and the Red Sea); (3) the Mediterranean; (4) the Polish coal fields; (5) the Swedish iron ores; and (6) the Ruhr.

Within the framework of this struggle between East and West, Poland occupies an important strategic role. Geography and coal have decreed that Poland is to play an important part in the battle for economic supremacy in western Europe. Coal is Poland's present main wealth and export commodity, as well as the largest single item in supplying the nation with foreign exchange. To the previous function of Polish export coal as a means of trade with the industrial world, Germany, and the Scandinavian nations, there has now been added the additional aim and function of enlarging its sphere of economic influence in western continental Europe and Italy. Currently Poland produces about 70 million tons of coal, of which 30 million is available for export. As shown in the table, coal in significant quantities moves to fifteen nations in western and Mediterranean Europe. These do not include the U.S.S.R., which appears to be the largest importer. Of the countries separately reported, Sweden takes the largest tonnage. Various trade agreements bring in exchange lumber, pulp, textiles, machinery, and soil equipment of which there is a deficiency in Poland. Foreign trade in coal, however, is only a part of the program of Polish economic development. Plans call for an increase in manufacturing at home, including coke, iron, and steel works. A steel-making capacity of 10,000,000 tons annually is being proposed.[3]

A dispatch from Warsaw under date of August 8, 1948, describes plans "to build a huge industrial center rivalling the Ruhr in the area between Katowice in southwestern Poland and Ostrava in Czechoslovakia."[3] Polish sources said that the coal, zinc, iron, and steel industries would be included in the Katowice - Ostrava development. The new plant will include steel works with an eventual capacity of 10,000,000 tons. A dispatch of January 16, 1949, quotes Mr. Hedrick, one-time Secretary-General of the Czechoslovakia Foreign Office, as saying, "Mr. Stalin is trying to build an 'Eastern Ruhr' in Czechoslovakia and Poland . . . they seem to be developing Czechoslovakia primarily as a source of economic reconstruction

[3] *New York Times,* August 9, 1948.

EXPORTS OF POLISH COAL AND COKE, 1948, 1947, 1937, 1928
(metric tons)

Recipient	1948	1947	1937	1928
Austria	1,318,446	857,793	784,000	2,997,000
Belgium	343,683	433,209	634,000	.....
Czechoslovakia	2,108,298	1,024,873	48,000	1,068,000
Denmark	1,915,070	1,040,338	304,000	1,603,000
Finland	1,496,255	649,296	287,000	444,000
France	1,857,599	536,215	1,568,000	366,000
Hungary	181,620	.....	.....	.....
Italy	1,092,037	425,338	1,690,000	444,000
Luxemburg	.....	369	.....	.....
Netherlands	466,344	293,494	327,000	.....
Norway	910,926	637,134	387,000	589,000
Portugal	.....	3,486	.....	.....
Sweden	3,630,694	2,508,294	2,576,000	2,800,000
Switzerland	294,375	679,788	180,000	.....
United Kingdom	51,627	115,528	.....	.....
Yugoslavia	284,511	176,928	6,000	.....
Bizone of Germany	52,287	.....	.....	.....
Soviet-occupied zone of Germany	6,110,176	4,630,657	1,000	.....
Other countries	7,805,583	9,050,075	1,065,000	1,924,000
Foreign bunkers	572,603	406,529	1,146,000	314,000
Total coal	24,090,127	17,767,960	11,003,000	12,549,000
Coke, brown coal, and briquets	6,402,007[a]	5,701,384[a]	342,000[b]	172,000[b]
All fuels	30,492,134	23,469,344	11,345,000	12,721,000

Sources: *Statistische Ubersicht über die Kohlenwirtschaft in Jahre 1938;* Economic Commission for Europe, Coal Division, *Monthly Bulletin of Coal Statistics,* Nos. 2 and 9.

[a] Included in figures for countries.

[b] Not included in figures for countries.

in Russia, as a source of military supplies and as a strategic territory that must be denied to the Western powers rather than as a base of attack upon the West."[4]

In this development, Czechoslovakia and Sweden are chosen to become significant partners. Czechoslovakia will supply essential machinery, such as turbines, boilers, generators, transformers and other heavy-industry goods. Sweden will supply iron ore.

The critical factor in this proposed development is the trade relationship with Sweden. Poland has only limited quantities of ore, and that is of low iron content. Nor is ore available in adequate quantity and grade in her neighboring states. The only practical source

[4] *Ibid.,* January 16, 1949, p. 5.

is Sweden. Poland is now shipping nearly 300,000 metric tons of coal monthly to Sweden and, in return, is receiving iron ore and other commodities. Sweden, in turn, is dependent, to an increasing extent, upon Poland for her coal requirements. The dominant position of Great Britain as a supplier of coal to Scandinavia was severely jolted during the prolonged British strike in 1926, and disappeared altogether during the war. Only in December, 1947, did she show feeble signs of returning into the market by a shipment of 6,639 metric tons. One year later this had risen to 100,000 metric tons. In the meantime, Germany, also a substantial supplier of coal to Sweden in the prewar thirties, virtually ceased shipments during the war and fell far below her prewar level after peace was restored. As a result Sweden has been moving into the Polish economic orbit and may, from sheer failure of the British and German coal supply to revive, be compelled to continue to rely mainly on Poland.

An attempt to develop a steel center of significant proportions in Poland will inevitably result in competitive rivalry with the Ruhr and with the British steel industry. In attempting to evaluate this potential competition, two elements must be taken into consideration affecting the competitive position of the Polish industry, viz., the limitations on the supply of coking coal, and the long rail transportation requirements to assemble Swedish ore and Polish coal. With respect to the supply of coking coal, Poland and Czechoslovakia[5] together produced an average of 3.6 million tons of coke annually between the two wars. Much of this, however, was of non-metallurgical grade. This is a coal equivalent to about slightly above 10 percent of total coal production.

Transportation costs will place the Polish-Swedish coal-iron ore economy at a slight disadvantage with the Ruhr in markets where the two are competing. A rail haul of approximately 350 miles from Katowice to the port of Gydnia is required to bring export coal to tidewater and bring in Swedish ore. Prior to the war the coal exports to Scandinavian nations successfully competed with British coal only on the basis of special low freight charges to promote export shipments, the differences to the railroads usually being made up by an equalization tax on home-mined coal or on home market sales. The policy, if continued into the industrialization program, will in effect amount to the subsidizing of the iron and steel industry, a subsidy which must be paid for out of the national economy.

While the coal exports to the U.S.S.R. and the Scandinavian nations are the most important commitments of the Polish coal industry, other important recipients of Polish coal are Austria, Belgium, Czechoslovakia, France, Italy, the Netherlands, and Switzerland. Many of these markets were developed after the prolonged strike in the British coal mines in 1926 and were immediately regained after the interval of World War II.

As a result of this expanded production and exports from the East Upper Silesian field, backed by one of the largest reserves of European coal and

[5] Which country must be regarded as a part of an eastern European industrial development.

favored by low production costs, Poland emerges as a powerful factor in the economy and political power of western Europe. The transfer of the Silesian coal fields to Poland caused serious dislocations of the European coal industry, especially in Britain, in the series of events after 1926 which have already been described.

Relation of Silesian Coal to the German Industry

Before the separation of Eastern Upper Silesia from Germany Silesian pit-coal mining accounted for 25 to 30 percent of German production. Silesia's coal mining provided an indispensable complement to the Ruhr district, as regards both quantity and quality. Although the Ruhr supplied coking coal in large quantities, it was the high-quality steam coal for railways, ships, and factory boilers, as well as for household purposes, which the Silesian districts contributed to the German coal economy. While the hard coke in the Ruhr district provided an excellent fuel for blast furnaces and other industrial plants, the Silesian coke, not so hard and easily inflammable, was in great demand for households.

For the restoration of German economy — an essential for the economic recovery of all of western Europe — more coal will be needed than can be supplied by the Ruhr. It is estimated that at least 160 to 170 million tons per year will be needed, whereas the productive capacity will be somewhere between 130 and 140 million tons when completely restored, and current production is about 85 million tons. It is the contention of the Germans that the coal fields of Saxony are approaching exhaustion, and the collieries of the Saar, now under French control, are no longer available for German needs. The brown coal produced cannot replace hard coal, however much the former might be increased. Under these conditions only Silesian production can provide a solution for the German coal requirements necessary for reparations and reconstruction.

The problem of western European reconstruction and recovery is not merely one of quantity alone. The production of the Ruhr district, predominantly composed of coking coal, would still require a complement of steam coal for railroads, manufacturers, households, and miscellaneous other uses. Here, as in other industrial districts of the world, coking-coal resources are not inexhaustible, and a careful husbanding of this particular kind of coal is essential if the objective of a long-sustained industrial economy in western Europe is to be realized. While Poland remains behind the iron curtain, the U.S.S.R. holds an ace card in dealing with the western powers.

This article has set forth only the economic aspects of the factors to be considered in the utilization of Polish East Upper Silesian coal and also the expansion of industry in Poland. A discussion of the economic events in Europe cannot overlook the political factor which pervades the entire gamut of current events in Europe. The direction of the Polish economy depends in a large measure upon the aims and intentions of the men in the Kremlin. Poland lies beyond the iron curtain; her government is composed of men

who are sympathetic to, or puppets of, the Russian government in the Kremlin and the latter has given ample evidence of being antagonistic to the nations of the Western World. Apparently Poland and her neighbor, Czechoslovakia, are to have their economies shaped to fit the Russian needs. Apparently, also, the first step is the building of an industrial district in these two nations.

Possibly the impelling motive behind the program of industrializing this district also lies in the weakness of the Soviets in industrial resources in their western area. Whatever the ultimate objective, it is worthy of note that there are several weak points in this plan. The first is the limited supply of coal for the manufacture of metallurgical coke. The Bethuen mine in former German territory and the small Teshen area in Czechoslovakia are the sole sources of coke for metallurgical purposes. The question arises whether the supply is adequate to produce the pig iron that would be needed in the manufacture of 10 million tons of steel. A second weakness is the dependence of this district upon Swedish ore. Imported ore from Sweden can be shipped either through the port of Lulea at the head of the Gulf of Bothnia, or through the Port of Narvik, Norway, down the Atlantic Coast and through the Skagerrak and the Kattegat into the Baltic Sea. In the former case, ore will need to be transported during the open season and stock-piled for the winter interval. The Narvik-Atlantic route remains open all year. In any event, the Swedish ores also form an essential supplement to the lower-grade ores of the Lorraine in the Ruhr industry and to the British ores. In the event of a conflict between East and West, the temptation to seize the Swedish ores by both sides would be strong.

Books Reviewed

The Modern Law of Advertising and Marketing. By Isaac W. Digges (New York: Funk & Wagnalls Co., 1948, pp. xiv, 310. $5.00)

In this, the latest addition to the *Printers' Ink Business Bookshelf,* the author presents the first complete consideration of the legal problems affecting advertising and marketing in the United States today. Mr. Digges, a member of the New York bar with twenty-six years of experience as counsel for various business firms and attorney for the Federal Trade Commission (1922-25), has written an extremely worth-while book. It is written in the layman's language, thereby avoiding many of the legal complexities which have rendered other such books of little value to the average businessman.

As stated in the preface, "coincident with the rapid growth of advertising . . . there has been an increasing amount of law applicable to the advertising process." The author emphasizes that the book is not intended "to replace the skilled practitioner in treating specific controversial questions." Rather, he hopes that "it will assist in giving a general grasp of the particular legal principles and laws that are germane to the advertising and marketing process." The text which follows fulfills this purpose exceedingly well.

The book is effectively organized under twelve main headings, covering such subjects as the Federal Government and Advertising, Trade Marks, Fair Trade and Resale Price Maintenance, Cooperative Advertising, Libel and Slander. Among the most valuable chapters is that devoted to General Contract Relationships in Advertising and Their Significance. Here the author treats of the highly complex advertiser-advertising agency-media relationships and explains the legal background for the rights and liabilities of publishers. The chapter explains, clearly and rather completely, the legal problems involved in such relationships.

The chapter devoted to the Federal Government and Advertising discusses problems relating to the Federal Trade Commission, use of the mails to defraud, advertising of alcoholic beverages, political advertising, and other related subjects.

In discussing cooperative advertising, in addition to the description of the pertinent provisions of the Robinson-Patman Act, the author has set down a series of questions, general in nature, which are often asked regarding special applications of the act, and these he has answered, briefly and clearly.

Each chapter in the book bears an introduction by an outstanding man in the field under discussion. Included in this list are such men as Burt W. Roper, Chief, Business Practices Division, U. S. Department of Commerce; Edward S. Rogers, of the New York and Illinois bars, "father" of Fair Trade; Charles Wesley Dunn, General Counsel, Grocery Manufacturers of America; and Lowell B. Mason, Federal Trade Commissioner.

In addition to the text of the book, a very useful appendix is included, which reproduces (paraphrased) the various forms and contracts presently in use in various advertising relation-

ships of a legal nature. In this section may be found such forms as one for an Advertiser-Agency Contract, a form of Testimonial Release, a form of Literary Property Assignment, and a half-dozen others.

The book has been well documented and its use is simplified greatly by a complete bibliography and a comprehensive reference index at the end. In general, it is the feeling of this reviewer that this book, explicitly written and authoritatively organized as it is, will fill a definite need of businessmen and advertising executives, for a comprehensive, simple discussion of the many complicated legal instruments and problems which face the modern advertiser.

F. B. Senger, Jr.

School of Journalism

Causes of Industrial Peace Under Collective Bargaining. A series of case studies.* (Washington, D. C.: National Planning Association)

Numerous inquiries have been made into the causes of industrial conflict and strife, but little has been done to investigate industrial peace. In the series of studies under review, the National Planning Association is attempting to discover "how much peace there is and what makes peace." The selection of companies and unions to be studied was made by a committee of labor and business leaders and professional consultants. Each study was conducted by a different author or authors, but the underlying determinants of a healthy labor-management relationship were the same for the whole series. The absence of conflict was not a crucial criterion. More important were such questions as:

How much and what kind of freedom does the employer enjoy in his relationship with the union?

How much mutual confidence have both parties in each other?

Have the company, the union, the public gained or lost from the collective bargaining relationship?

The first four of the fifteen case studies have recently been published. They are investigations of plants in which it was determined that "healthy" labor - management relations existed. The individual authors analyzed the relationship to determine how and why this "healthy" situation came to be.

Although each author attacked his individual study in his own manner, a number of the factors which aided in the attainment of "healthy" relations were found in all the case studies. The following are a few of the conditions which were regarded as basic in each case studied:

1. There was full acceptance by management of collective bargaining and of the union as an institution. The company considered a strong union an asset to management.

2. The union fully accepted private ownership and operation of the industry;

* No. 1, Clark Kerr and Roger Randall, *Crown Zellerbach Corporation and the Pacific Coast Pulp and Paper Industry* (1948, pp. xviii, 78. $1.00); No. 2, Frederick H. Harbison and King Carr, *The Libbey-Owens-Ford Glass Company and the Federation of Glass, Ceramic, and Silica Sand Workers of America* (1948, pp. xii, 63. $1.00); No. 3, Douglas McGregor and Joseph N. Scanlon, *The Dewey and Almy Chemical Company and the International Chemical Workers Union* (1948, pp. xii, 87. $1.00); No. 4, Donald B. Straus, *Hickey-Freeman Company and Amalgamated Clothing Workers of America* (1949, pp. xii, 87. $1.00).

it recognized that the welfare of its members depended upon the successful operation of the business.

3. Mutual trust and confidence existed between the parties.

4. There was widespread union-management consultation and highly developed sharing of information.

The implication of common conditions in each of four different "healthy" labor-management situations is that other companies and industries can profit from the experience of these studies. This is undoubtedly true; others *can* profit from these experiences. A careful reading of these studies, however, shows unique features in each. In the Crown-Zellerbach study there is the historical situation of industry-wide bargaining, with the dominance of the Crown-Zellerbach Company over the other companies in the Pacific Coast pulp and paper industry. In the Hickey-Freeman study there is the personality of Sidney Hillman, which created the atmosphere in which "healthy" relations grew. These unique features, however, do not detract materially from the studies, which are important because they show that a significant number of factors are common to all four.

One significant weakness in this series of case studies is the selection of labor-management situations to be studied. From many proposed companies to study, the Committee chooses those which it feels have healthy labor-management relations. Then persons are selected to study those situations which the Committee had decided had healthy relations. This procedure appears to have somewhat the effect of prejudging the case; for the author of an individual case study, once he agrees to do the study, will feel under obligation to find reasons for the healthy situation he is told exists. This procedural weakness, however, does not vitiate the findings in the individual case studies.

These studies are written not only for the specialist but also for the layman who is interested in the attainment of industrial peace in our economy. Each report is prefaced with an explanation of the purpose of the series, and a summary of the findings of the individual study. At the end of each chapter is found a summary of that chapter. In general, the studies are well written but, as is the case in any project where a number of persons participate, some are considerably better than others. The quality of the analysis and presentation in Case Study No. 1 is superior to the others now available. Case Study No. 2 might be ranked second.

Morris A. Horowitz

Institute of Labor and Industrial Relations